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Two Articles on Rapid Reading in Braille

A 20-Year Longitudinal Study of Blind Children

Three Articles on Vocational Programs for Visually Handicapped Persons

THE NEW Outlook FOR THE BLIND



THE NEW
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FOR THE BLIND

January 1974 Volume 68 Number 1

Articles

1 The 20-Year Outcome of Blind Children Two Years Old and Younger: A Preliminary Survey
Arthur E. Gillman, M.D., and *Dorothy Rose Goddard*

8 Explorations in Rapid Reading in Braille
Vearl G. McBride, Ph.D.

13 Speed Reading in Braille: An Empirical Study
John M. Crandell, Jr., Ph.D., and *David H. Wallace, Ph.D.*

20 Evaluating the Work Potential of Blind Multiply Handicapped Persons for the Manufacture of Bath Perfume
R. B. Benton, Ph.D., N. A. Permenter, J. Baylor, and *P. McLelland*

25 The Development of a Vocational Program in a Residential School for the Visually Handicapped
D. Gary Coker

29 Breaking Blind Stereotypes Through Vocational Placements
Peter Rossi, Jr., and *Michael Marotta*

Departments

35 Hindsight

37 Comment—*Ned T. Jackson* and *George Kording*
William F. Gallagher

41 Letters to the Editor

43 Current Literature

47 In Brief

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The 20-Year Outcome of Blind Children Two Years Old and Younger: A Preliminary Survey

ABSTRACT: This longitudinal-outcome study of 77 blind children registered with one agency for the blind in 1949-1950, conducted through a survey of case records, revealed that 25 percent were still active with the agency 20 years later, 20 percent were institutionalized, and 15 percent had attended college. A significant correlation between Social Quotient (measured prior to six years of age) and Intelligence Quotient (measured after six years of age) was found. There were minimal changes in visual acuity, but an increased awareness of functional vision. There were an increased number of diagnoses of additional handicaps as the children grew older.

ARTHUR E. GILLMAN, M.D.
DOROTHY ROSE GODDARD

Dr. Gillman is a psychiatric consultant to the New York Association for the Blind, New York City; Mrs. Goddard is administrative assistant in Program Services at the same agency.

Longitudinal and outcome studies of children blind prior to two years of age have been reported for the preschool and school-age years. A search of the literature by the authors and others has revealed no studies of such children grown up (Scott, 1967; Pringle, 1962; McGuire & Meyers, 1971).

Preliminary Survey

☐ An internal, unpublished agency report on the 77 legally blind children between two and seven years of age served between July 1949 and June 1950 by the New York Association for the Blind, New York City, provided a convenient start for this study of the present status of these children 20 years later (1969-1970). A survey of the client records of the New York Association for the Blind was, therefore, undertaken to see if sufficient information was available to study this question. We assumed that due to the magnitude of the handicap, its chronicity, and the nature of the ongoing services offered by the agency, a majority of the families would have had continuing contact with the agency over a period of years. This preliminary survey demonstrated that the records contained sufficient information to allow observations on social outcome and on the correlation between the Social Maturity Scale for Blind Preschool Children (Maxfield & Buchholz, 1957) and the Verbal Scale of the Wechsler Intelligence Scale for Children.

Method

☐ The authors jointly surveyed the 74 available records of the 77 original clients who were between two and seven years of age and who registered between July 1949 and June 1950. Working together on records provided a check on accuracy and reliability in the collection of this material.

Information sought

From our knowledge of the agency, we felt that information would most likely be available in the following nine areas: family status, occupation of head of household, birth weight, visual acuity, age at onset of visual difficulties, other handicapping conditions, psychological test scores, level of academic achievement, and outcome. We surveyed the records for other categories of information, too.

Case Records

☐ Case records were written by non-professional and professional personnel (case aides, nurses, nursery school teachers, and psychological and medical consultants). The specific services offered to clients, as well as home and office

visits, were recorded. Notes of conversations with parents and other professionals and observations of behavior were made. In some instances services included diagnostic evaluations conducted by consultants. But since the agency role was to provide concrete services, such diagnostic, historical, and developmental information was limited in extent.

Notes were recorded at irregular intervals with varying amounts of detail. Case histories were not a formal part of the record, but historical fragments were interspersed throughout. Opinions and attitudes were reported along with observations. The amount of opinion expressed varied from record to record.

Diagnoses

Diagnostic emphasis was placed on ophthalmological and medical areas rather than social interaction. A consulting psychologist evaluated the children, emphasizing developmental, intellectual, social, and motor progress and de-emphasizing dynamic interactional factors.

The number of records containing information in the several areas of interest are: sex and date of birth—74; demographic information—51; visual acuity —65; ophthalmological diagnosis—73; presence of other handicaps—57; age at onset of visual difficulty—74; birth weight—59; level (but not always the outcome) of academic achievement—42; social outcome (place of residence)—39; psychological evaluation (S.Q.)—74; and WISC-Verbal—26.

Demographic data

Demographic information consisted of the following items: name, address, birth date, place of birth, language spoken, length of residence in U.S., member of household, occupation of parents, income, and race (on occasion).

Medical information varied in amount. The ophthalmological information was usually complete, but pediatric history, including birth history and growth and developmental information, varied.

Worker Statements

☐ Notes by caseworkers, psychologists, and nursery school teachers varied considerably in detail and subject matter. Notes by caseworkers included: reason for seeking agency help; source of the referral; age of child at time of seeking help; description of parents; characterization of informant; judgments regarding mother's attitude toward the child and toward the agency; services offered; father's participation; parents' attitudes toward services; statements from other sources regarding need for services, attitude of parents, problems of the family and child, and description of the child; length of time active with the agency; reason for closure; and reason for reopening.

Notes by psychologists included: judgments regarding therapeutic needs and language; remarks about developmental milestones; and statements concerning the mother's attitudes toward the child, the agency, and the worker, her fears about the child, and the child's general behavior.

Teachers' notes

Notes by teachers included: comments about group interaction, daily routines, child's reaction to school, parents, peers, and teachers; the mother's attitude toward the child, staff, and program; the mother's specific requests for help; and an evaluation of the mother's need.

The retrospective study of records is difficult and has been criticized for its unreliability (Yarrow, Campbell, & Burton, 1964). The degree of unreliability is directly related to the subjective quality of the area studied and the length of time that the respondent is required to remember a fact. We attempted in this

part of the study to control these factors by surveying non-opinion areas which were recorded soon after the observations were made, usually by professional consultants.

Findings

☐ The agency survey of this group in 1950 reported that three-quarters of the parents were within the usual range of child-bearing ages. Thirteen of the mothers were 31-40 years, two were 41 years and over. Interestingly, two of the fathers were blind themselves. There were no instances of blind mothers.

Delivery at term occurred in only 33 cases (42 percent). Twenty-eight children were delivered between 6½ and 7½ months, ten between 6 and 6½ months, and one at less than 6 months. Deliveries were uncomplicated in 67 cases, complicated (operative deliveries) in seven. Twenty-two of the mothers had intercurrent illness during pregnancy. Twelve of the children were of multiple births. Forty were premature. The neonatal course of 47 children was uncomplicated. In 28 there were a variety of medical complications.

One-third of the children (25) weighed six pounds or more at birth. Seven weighed between four and six pounds. Over half (37) weighed between two and four pounds, with the majority (25) weighing between two and three pounds. Only two weighed less than two pounds at birth.

Visual acuity

The visual acuity of the children as measured in 1950 was compared with the measurements made in 1969 (listed in parenthesis). The absence of three cases (77 in 1950, 74 in 1969) did not of course materially affect these proportions. The following results were obtained: absolute blindness, no light perception—20 (22); light perception and/or projection only—40 (28); motion perception and form perception up to, but not including, 5/200—16 (4); from 5/200 up to, but not including, 10/200—1 (2); from 10/200 to more than 20/200—0 (6); restricted fields—0 (0); unknown—0 (12). The group therefore consists of approximately one-third totally blind, one-third with light perception or projection, and the remainder with various degrees of extremely limited vision. It would seem that there has been some limited change in visual acuity in the group.

Blindness occurred at birth or within a few months thereafter in all but four cases. These four individuals suffered from retinoblastoma and had bilateral enucleations at varying times between six and 18 months of age.

Causes of Blindness

☐ The causes of blindness in the 77 children, classified by etiology, were: infectious diseases—1; trauma (birth process)—1; neoplasms (brain tumor, gliamos, etc.)—4; vascular diseases—1; diseases of the central nervous system—1; prenatal origin (not classified elsewhere) and hereditary (established or presumed)—3; prenatal origin, causes not specified—64 (including 40 RLF cases, cause unknown in 1950); and etiology undetermined by physician—2. The causes of blindness classified by site and type of affection were: eyeball in general—11 (including four cases of retinoblastoma); iris and ciliary body—1; crystalline lens—47 (including 40 cases of retrolental fibroplasia and seven of congenital cataract); choroid and retina—6; optic nerve, visual pathway, and cortical visual centers—11; and miscellaneous and ill-defined—1.

Additional handicaps

The original 1949 study noted that 17 of the 77 children also had handicaps other than blindness and severe visual impairment, although the nature of

these handicaps were not specified. The records of 20 years later de-emphasize anatomical classification and use a functional one. In 1969 at least half of the individuals had another handicapping condition present. Particularly striking is the increased frequency of a diagnosis of organic brain syndrome, including mental retardation. Of the 31 cases of mental retardation diagnosed, 14 were without other nonvisual handicaps and 17 were with others. Other handicapping conditions not necessarily associated with mental retardation were one with language impairment, five with emotional problems, two with brain injury, and three with cerebral palsy. In 24 cases no other handicap was discovered; in eight cases no statement regarding additional handicaps was made.

Social Status

☐ The status of the 77 children after 20 years, defined according to their place of residence or educational-occupational attainment, is as follows: of the 20 still active with the agency, two are at-home dependents, four are in training programs with the agency, nine are attending college (seven at the undergraduate level), two are in professional occupations (with graduate degrees), and three are in other occupations; of the 57 no longer active with the agency, records are not available for three, 17 are institutionalized, 23 have moved out of the boroughs of Manhattan, Bronx, Queens, and Richmond, one is an at-home dependent, one is attending college (graduate level), and 12 are of unknown status.

Psychological test scores

The Maxfield-Buchholz Social Maturity Scale for Blind Preschool Children (Maxfield & Buchholz, 1957), an adaptation of the Vineland Social Maturity Scale, had been administered to 66 of the children in our sample, with 45 of them taking it more than once. Of these, 27 had S.Q. scores of below 75, 20 between 75 and 100, and 19 over 100.

Twenty-six of the children had had the test for S.Q. administered prior to six years of age, plus the Verbal Scale of the Wechsler Intelligence Scale for Children after the age of six. The I.Q.'s of these individuals ranged from 27 to 146, with S.Q.'s from 44 to 166. Two had Verbal I.Q.'s below 50, four between 50 and 75, six between 75 and 100, and 14 above 100 (one at 104 and the rest above 120). Of those with I.Q.'s above 100, four are in undergraduate college programs, three in graduate programs, one in a professional occupation, three in other skilled occupations, one in a training program, and two are out of the area. Of those with I.Q.'s below 100, one (I.Q. 99) is in an undergraduate college program, three are in training programs, three are at-home dependents, three are institutionalized, and two are out of the area and unknown. A comparison of the visual acuity, etiology of blindness, and age at onset of blindness of these 26 individuals with the remaining 51 individuals revealed no significant differences.

Statistical Results

☐ The correlation of several of the clinical parameters mentioned, using the Chi Square technique, were attempted. (Alan Blum, Ph.D., and Lawrence Miller, Ph.D., consulted on statistical techniques.) The only statistically significant correlation found was a positive one between birth weight (in this case, prematurity) and eye diagnosis (in this case, retrolental fibroplasia).

Test score correlations

The S.Q. scores from tests administered before six years of age and I.Q. scores from tests administered after six years of age were correlated using the

Pearson Rank Order method. According to Doll (1953), there are gross correlations between S.Q. and I.Q. When individuals were tested on more than one occasion (both S.Q. and I.Q.), the first test score was used in the calculations. This arbitrary decision was based on inspection of test-retest differences which showed no clear trend toward an increase or decrease between first and second test administration. For statistical purposes, a consistent choice between either the first or second result therefore seemed to be valid. Age six was chosen because of findings regarding the stability of the I.Q. (Bloom, 1964). Significant correlations were found for S.Q. prior to six and I.Q. after six ($r. = .32; N = 26$) and for S.Q. prior to three and I.Q. ($r. = .73; N = 10$). Insignificant correlations were found for S.Q. between three and six and I.Q. ($r. = .23; N = 16$); low S.Q. (below 100) prior to three and I.Q. ($r. = .65; N = 5$) low S.Q. (below 100) between three and six and I.Q. ($r. = .49; N = 11$); and highest S.Q. (100-166) and I.Q. ($r. = .34; N = 9$). Because of two markedly deviant subjects in this final correlation, it was felt that it might have been significant with a larger sample. These findings are obviously suggestive and preliminary, and require re-examination with larger groups of subjects.

Discussion

☐ Estimates of the incidence of blindness in children in the United States vary between 20,000 and 30,000. New York, which requires that all cases of blindness be reported, had 94 children under two years of age reported statewide between January 1949 and December 1949, and 356 between the ages of two and seven years. There were, then, a total of approximately 450 blind children in the state at the time of this survey.

Blind children in New York

Goldberg, Goldstein, Quade, and Rogot (1967) surveyed the birth certificates of legally blind children born in New York during 1948-1959 and reported that three-fifths of the blind children in the state resided in New York City. There were, therefore, between 275 and 300 legally blind children under seven years of age in the area served by the New York Association for the Blind (all of New York City except Brooklyn). The 74 children in our sample may therefore represent between one-third and one-fourth of the blind children under seven years of age in New York City. This sample is, nevertheless, selective in that it represents only those children whose parents sought help from an agency. It does not reflect the racial distribution found in New York City, nor the distribution reported by Goldberg et al. (1967)—only five of the 73 individuals in the sample are Negro. (This, incidentally, does not represent the agency's present caseload population.)

High rate of prematurity

The statistics regarding the age of the parents at the time of delivery of the child, the incidence of illness in the parents, and complicated delivery and neonatal period are all higher than expected. These findings are not unexpected, however, in a group where two-thirds of the infants were born prematurely. The high incidence of prematurity in this sample is in agreement with other studies. Boshes, Cohen, Alfano, and Lee (1967) reported that 85 percent of their group had been born prematurely. Fraser and Friedman (1967), after surveying 776 legally blind children in schools for the visually handicapped in England and Wales, found that one-third were blind due to perinatal difficulties. They stated: "There can be little doubt that the association of blindness with

additional handicaps, such as mental subnormality, cerebral palsy, or deafness which has been increasing in frequency in recent years, is strongly correlated with low birthweight."

Changes in Visual Acuity

☐ Acuity is a functional definition. Some legally blind individuals are able to read printed materials and are fully mobile without aids. Totally blind individuals without sight comprise only ten percent of those individuals who are legally blind. Estimating visual acuity in children less than seven years of age, while difficult, is obviously important for planning the child's educational program. The differences in visual acuity noted between 1949 and 1969 in our group emphasize the importance of specifying changes in this variable in longitudinal studies of the blind child. In our work with blind nursery school children we have seen changes in acuity, both improvement and deterioration. The finding that acuity seemed to improve with age may reflect not only the child's increased ability to cooperate with the examiners as he matures, but also changes in ocular pathology. Changes due to retrolental fibroplasia, for example, may continue into adolescence (Tasman, 1969).

Diagnosis of other handicaps

The increased number of diagnoses of other handicaps over the 20-year period agrees with the findings of Boshes, Cohen, Alfano, and Lee (1967) with a group of children diagnosed in their preschool years and later after they had started school. The finding that 17 of the individuals were institutionalized (approximately 20 percent) is in keeping with Wolf's (1966) survey-based estimate that there are approximately 15,000 multiply handicapped blind children in the United States. Since only six percent of these children were under six years of age, the inference may be drawn that such a diagnosis is more frequently made after six years of age. In California, which contributed 19.4 percent of the total sample, 25 percent of all blind children are in institutions.

Adaptive coping

On the other hand, the finding that at least 12 individuals had attended college-level programs indicates that individuals may cope with this handicap adaptively. The literature concerning the blind child stresses cognitive impairments and deficits, with much less attention being focused on the person who copes with the handicap and how such coping is accomplished.

Social maturity

Doll (1953) reported a correlation between the Vineland Social Maturity Scale and intelligence tests, indicating that there are some shared factors. The areas used to define social maturity in young children also overlap developmental testing areas. Although controversy has been great regarding the correlation between developmental testing and later intellectual abilities, recent studies seem to indicate that such testing has predictive value (Ames, 1967; Ireton, Thiving, & Gravem, 1970).

Controversy regarding the predictive value of testing blind infants has existed among clinical psychologists working in this area, too. Our finding is a preliminary attempt at bringing data to bear on this clinical assumption. Certain discrepancies in the data emphasize caution in interpreting the results. For instance, the correlation between subjects below three years of age was positive, while it was negative for those between three and six years of age.

Summary and Conclusions

☐ A 20-year follow-up examination of the case records of all clients younger than seven years of age who were registered at a multi-function agency for the

blind during 1949-50 revealed that 25 percent of these individuals were still active clients of the agency, 20 percent were institutionalized, and 15 percent had attended college-level courses.

During the interim, records of visual acuity indicated minimal changes, the trend of these changes being towards increased awareness of functional vision. As the children grew older, an increased number of diagnoses of defects other than visual were noted.

Finally, a comparison in a study group of 26 individuals revealed that there was a significant correlation between the Social Quotient of the Maxfield-Buchholz Social Maturity Scale for Preschool Blind Children administered prior to six years of age and the Verbal Scale of the Wechsler Intelligence Scale for Children administered after six years of age.

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Explorations in Rapid Reading in Braille

ABSTRACT: In one of several recent two-week workshops, blind and visually handicapped persons have increased their braille reading speed from an average of 138 words per minute to 710. The techniques, which vary with the individual readers, are developed through a series of exercises involving the rapid scanning of each page, using one or both hands and from one to six fingers. Comprehension is affected only slightly.

VEARL G. McBRIDE, Ph.D.

Dr. McBride is professor of education at Culver-Stockton College, Canton, Missouri.

During the past ten years I have had some exciting experiences in the learning field. In this time I have taught more than 275 classes in rapid learning, with average and above average students, mentally retarded, cerebral palsied, and brain injured students, the deaf and hard of hearing, the very young and the very old. The subject matter in these classes included rapid reading in English, rapid math, rapid spelling, and rapid reading in French, Spanish, and Japanese.

High Speeds

☐ I have seen my students read at impossibly high speeds and perform wonders in math and in foreign languages. I have seen second graders learn 200 spelling words a week, instead of the usual six. I have seen kindergarten children read at speeds that are incredible for five-year-olds, or even for adults. I have taught deaf mutes to read rapidly without their having to overcome the handicap of sub-vocalizing the words.

But I have never been so excited as I was in July 1972 when I had the privilege of teaching a group of blind and partially sighted persons to read braille and inkprint rapidly and with much enjoyment. To me it was amazing and fascinating to watch the braille readers move their hands with great rapidity and in many different directions over the braille pages. Each person developed his reading skills in his own way, through suggestions from workshop directors and through comparing his techniques with others in the class. Each was therefore able to experiment with new ideas never before attempted.

Individualized techniques

Some of the students used one hand, some used two. Some used one finger, some used six. Some used the edges of their fingers, some used the edges of the thumbs. Some read in one direction, a few read in two directions simultaneously. They began to read at speeds many times faster than the average braille reader. Partially sighted men and women also began to read at speeds which had heretofore been thought impossible for them—or for anyone, for that matter. They held their books at odd angles while moving their hands or heads in "crazy" ways—up and down, back and forth from left to right, or zig-zag fashion. Some had to hold their books so close to their faces that the pages rubbed their noses.

The Workshop

☐ Of the 35 attending the workshop, 17 were totally blind, 13 were severely visually handicapped, and five had normal vision. One of the five with normal vision was dyslexic and, by her own admission, could read only two pages an

hour. The workshop was originally planned to experiment with rapid braille reading for blind persons and teachers of the blind only. However, others heard of it and asked to be admitted.

"Average" reading rate

Can blind persons really be taught to read braille fast? They not only can learn to, they should learn. The "average" blind person reads braille at about 90 to 110 words a minute. This is about as fast as a second or third grader reads. This is terribly slow—even for second and third graders. This is due to the way most individuals are taught to read. However, experience has shown us that most can be taught to read much faster.

The participants

The workshop was made up mostly of adults from 11 states and included a blind counselor, a blind psychologist, a blind teacher, and other blind professionals. All were there because they wanted to learn about the possibilities for teaching blind persons to read braille more rapidly.

1,600 wpm

All were able to increase their reading speeds more than they had thought possible. One woman who scored 144 wpm (words per minute) on the first test, later scored 1,600 wpm. Her comprehension at the higher rate was not quite as good as at 144 wpm but, as she pointed out, a second reading at 1,600 wpm would bring her even better comprehension, and she would still have not taken as much time as at her old rate. Her speed of 1,600 wpm was the highest score made in the class by a blind person. This was an increase of more than 11 times in two weeks.

Not all did that well, of course. There was the newly blinded man who had scored only 40 wpm on his first test, the lowest in the class. Like the others in the class, he was very much in earnest about improving his rate. He said to me, "If I can just double my rate I'll be happy." He was able to read between nine and ten times faster when the workshop ended.

Challenging the Status Quo

☐ There are those who maintain that because of the very nature of braille it must be read at a low rate, the rate at which most braille readers now read. They are saying that blind braille readers now read as well as they will ever read, that they have reached the topmost heights in this all-important activity. But I think we have no right to place performance limitations on others. We believed that they could do better. And so we just told them they could read faster and showed them different ways they might try.

They succeeded marvelously. They read rapidly and with enjoyment. Of great interest to us was the fact that the highest reading speed was achieved by a partially sighted individual who suffers from nystagmus. Of interest, also, was the statement made by her eye doctor as he watched her read on the last day of the workshop. When I said that what she was doing was supposed to be impossible, he laughingly remarked: "Yes, it is *supposed* to be impossible, but don't tell her it is and perhaps she will do even better."

710 wpm average

The average rate of the braille readers at the beginning of the workshop was 138 wpm. (There were several expert braille readers in the group.) At the end of the two weeks the average was 710 wpm.

Informal testing

These scores were obtained in an informal manner. The materials used for testing were books of the kind used regularly by the participants, but which had not been read by them previously. They reported on what they had read,

including how they felt about it, how they responded to it, and whether they enjoyed what they read. They were questioned orally about their reading. This method is not considered scientific despite the fact that it elicits much more satisfying information about the person's comprehension than does the usual standardized set of questions.

Other Workshops

☐ The real point is that these people were thrilled and enthusiastic about their accomplishments, scientific or not. The results were so interesting that many other workshops were planned for different parts of the country and in England. One, held by the Michigan State Department of Education, is undergoing a thorough evaluation by Michigan State University. Another, conducted by Brigham Young University at the Murray B. Allen Center for the Blind, Salt Lake City, included several individuals who could read braille only very slowly or barely at all. The rates ranged from zero to 220 wpm. At the end of the six days, the range was 25 wpm to more than 1,000. One partially sighted participant, who had to hold the book so close to his face that he was able to use his lips to keep his place as he moved his head or the book back and forth, increased his reading rate from 50 to 400 wpm.

Evaluation

The American Foundation for the Blind is planning a program to evaluate the various systems of teaching rapid reading to blind and visually handicapped persons. There is much for us to experiment with and much for us to learn. It is certain however that there are great possibilities for blind persons. We must take care that we do not stand in their way.

Procedures

☐ It would seem appropriate at this point to outline the procedures we use to increase the reading rate of blind and visually handicapped readers. I hesitate to put these instructions in writing because someone might try them, not follow the instructions, become discouraged, and decide that the procedures will not work. Following the instructions is a must if one wishes to improve his reading rate. A haphazard attempt will only bring frustration, discouragement, and a settling back into the old way of reading. In short, once one "sets his hand to the plow, let him not turn back."

Step I. Be enthusiastic and remain convinced that you *can* increase your reading rate whether you are blind, partially sighted, or sighted.

Step II. Secure a timing device that will measure time in seconds. A stove timer or an egg timer will do.

Step III. Have on hand several easy reading books (nothing above the fourth or fifth grade level).

Encountering all the words

Step IV. Have someone time you to see how fast you can encounter all of the words on one page. Start with five seconds and work *down*, attempting to move your hands/eyes faster each time. In this effort, you are to encounter the words only, with *no* attempt to understand the words. Move your hands over the page in any manner you wish, i.e., across the page, straight down, straight up, spiraling, zig-zagging, etc. Try to use both hands and as many fingers as you can. Your goal now is to encounter as many words as possible in the shortest period of time without understanding their meaning.

Avoid subvocalization

Step V. Now have your helper time you for 15 to 20 seconds as you move

from page to page rapidly, again with no comprehension and attempting to not say the words in your mind. Note: We have been taught very successfully to subvocalize the words. Now we are asking you to "kick" this habit as much as possible. This can be helped by moving your hands/eyes so fast that you cannot say the words in your mind. You are also developing the habit of moving your hands/eyes more rapidly. When you have finished with a page and are ready to turn it, you must turn it swiftly and go right on to the next page. Don't casually or slowly turn the pages. You *must* encounter all of the words before turning the page, but once having finished with the page, *get rid of it.*

Find new hand movements

Step VI. Continue this process for two days, experimenting often with new hand or eye movements. Try to find new ways of moving the hands or eyes. Practice *at least* an hour a day in 10- to 20-minute periods, or whatever period best suits your particular situation. Try to go faster each time, again without saying the words in your mind.

"Bits and pieces" comprehension

Step VII. Go over the same pages again and again. On the third day of practice, begin to try to understand some of the words. Try to answer a *few* questions, such as "who," "where," "how many," "what color," etc. Do not try to understand more than two or three words on a page. We call this "bits and pieces" comprehension. You are not to attempt to make any sense of the story, but only to recognize a few words. You will be tempted to slow down at this point, but resist doing so. There will be time for slowing down later. Remember, you are supposed to be encountering the words in any direction, and with as many fingers as will be best for you. This may include the use of the thumbs, also. Some people have found that in sweeping the pages the outside edges of the thumbs can be effectively utilized in recognizing words.

Increasing Comprehension

☐ *Step VIII.* Remember, you are going over the same material again and again. Now, as you continue this, try to add new words to those you have already recognized. Continue this until you begin to get a little sense out of the story. We call this "general comprehension," or "the thread of the story." In this process (after about two hours of "bits and pieces") you might feel that you need to slow down a little to understand better. Okay, slow down a bit, and/or change your pattern of encountering the words. Continue going over the same pages rapidly, trying to add new information to what you already have gained. You might want to decrease your rate in some places, then speed up in others. Note: Some of you will find that you recognize some things as you are reading but have lost them by the end of the timing. This is natural, but with continued practice the problem will disappear or will be lessened. Figure your rate of reading on a per-minute basis now.

Trying more difficult books

Step IX. Begin each practice session with "warm-up" exercises, i.e., two or three runs of 20-60 seconds for "speed only" with no comprehension. Then move into comprehension, trying for more comprehension each day. Move into more difficult books now, books which have more words per page. Select the kind that you enjoy most, but do not choose the most difficult yet. Increase the level of difficulty only as you feel you should. As you gain more understanding perhaps you can go even faster. There will be times when you should slow

down a little more for better comprehension. Flexibility becomes important now. Adjust your rate to suit your needs. By now, however, you should feel uncomfortable reading at your old rate.

Adjust position of materials

Step X. You may wish to change the position of your reading materials to accommodate your particular way of reading. This is an important consideration. We have found that pieces of foam rubber cut in various sizes and shapes are helpful in adjusting the position of the materials. Remember to figure your rate of reading from time to time and also to relate to someone what you have read. Have the person then ask you questions about the selection. Read for as much as a minute or two at a time for this purpose. Gradually increase the length of the timings.

"Book report" comprehension

Step XI. Begin to think in terms of "main ideas," "sequence of ideas," "main characters," and the relationship of the main characters to the story. Pick a selection and try to read it in a given length of time. Work for "book report" comprehension. Why did the author write as he did? Did you feel a part of the story? Did you get "involved"? Did you enjoy it? Why?

As you practice you might become discouraged, especially in the beginning. But "be not discouraged, neither be thou dismayed," for as you continue to practice diligently, success will be yours. But remember, it must be done on a daily basis, otherwise it will fail.

Conclusion

☐ In conclusion, let me add that I do not believe that we teach real reading in school. I believe, rather, that we teach *slow* reading in school. Real reading is *faster* reading and more in keeping with the way the brain operates. This is true whether the student is blind or sighted.

Back Issues Requested

Short Supply

Requests for certain back issues of the *New Outlook* will not be filled without cooperation from our readers. These issues, which are in short supply, or entirely out of print, are requested by new readers, researchers, regional libraries, agencies for the blind, schools for the blind, as well as other institutions working with the blind. In order to meet the demand for out-of-print issues of the *New Outlook*, readers are asked to return copies of the January, February, and April issues for 1973, which they do not plan to keep. Readers cooperating will be reimbursed for the amount of postage used in returning the magazines. Thank you.

Speed Reading in Braille: An Empirical Study

ABSTRACT: This study of the effects of six days of rapid reading training and rapid reading plus recognition training on the reading rates and comprehension of blind braille-reading adults revealed that speeds of up to 225 words per minute are feasible without a significant loss of comprehension. A review of the literature, the experimental procedures and instructions, and an analysis of pretest and posttest results are included.

JOHN M. CRANDELL, JR., Ph.D.
DAVID H. WALLACE, Ph.D.

Dr. Crandell is associate professor of educational psychology and coordinator of programs for prepaartion of teachers of the visually handicapped, Brigham Young University, Provo, Utah; Dr. Wallace received his doctorate in special education, with an emphasis on the visually handicapped, from Brigham Young University in April 1973.

The purpose of this study was to investigate the effect of three treatments (rapid reading training, rapid reading instruction and recognition training, and control) on the reading rate and comprehension of three groups of legally blind braille-reading adults.

Rapid reading is not a new concept for education. Professionals agree that most readers can increase their reading rate. The flexibility of the rate (Gates, 1953), the type of material, level of difficulty, and purpose in reading are all important factors in determining how fast the individual reads. It was hypothesized in this study that no significant differences existed among the levels of the following variables: 1) treatment; 2) sex; and 3) the interaction of treatment and sex.

Related Research

☐ Virtually all those involved with the education of visually handicapped children and adults are aware that the reading speed of these students is slower than that of corresponding normally sighted students. Thus, tasks involving reading become educationally derogatory rather than educationally enhancing experiences. In an effort to increase the efficiency of the reading process, Henderson (1967), Umsted (1970), and Barraga (1964) have designed programs for use with visually handicapped readers.

Geyer's model

Geyer (1970) proposed a new model of reading that included six major systems: "visual input, coding, iconic storage, internal response, verbal storage, and verbal output" (p. 76). The visual input scanning mechanism involves the hypothesis " . . . that visual input is sequentially ordered within the fixational pause" (p. 75). After input, the letters are organized, coded, and scanned into words and higher order units. The units are then transferred to the icon storage system where they remain " . . . accessible for response for approximately one second, but if no response is made the units are lost. . . . The primary function of this system is to act as a temporal buffer between sensory and response phases to allow integration of the different processing rates" (p. 77).

Internal response

The internal response system, as postulated by Geyer, provides for an almost infinite number of potential responses. Geyer also offered a secondary internal response storage system as a possible temporal buffer between the recognition and motor phases. Verbal output is a part of the external response systems. The

perceptual window, as described by Foulke (1970), appears to have a complementary relationship with Geyer's model.

Reading speed

A study by Birch, Tisdall, Peabody, and Sterrett (1966) with partially seeing children in grades five and six found that reading speed, comprehension, and degree of visual acuity were not related. Thus, reading speed may not be predicted on the basis of visual acuity. Using matched pairs of blind children, Barraga (1964) demonstrated that after lessons in visual discrimination and recognition the children used their vision more efficiently. Umsted (1970) found an increase in reading rate after recognition training for braille-reading high school students.

Recognition thresholds

Nolan and Kederis (1969) found that slow braille readers had greater recognition thresholds than fast braille readers. Context was found to decrease recognition time for long, familiar contracted words. The increased recognition time for unfamiliar words was greater for slow readers than for fast readers. In further study, it was noted that lower braille cell characters are more difficult to recognize than those braille characters containing at least one upper cell dot.

Rapid reading

Several authors have predicted braille reading rates faster than many print reading rates of today. Grunwald (1966) suggested the possibility of greater braille reading speeds; and Ondricek, Meehan, and Love (1973) have developed techniques that have the potential to increase reading rates. Their variable-speed mechanical devices " . . . will accept compact, coded inkprint information and convert it . . . into a form accessible to the blind person. . . . A standard sheet of inkprint paper (8½" × 11") can contain more information than a standard volume of embossed braille" (p. 69). With braille reading rates in the range of print rates, this new braille medium will give braille readers easy access to the world of print information at reasonable costs.

Procedure

☐ The 22 subjects used in this study, ranging in age from 16 to 50 years, were randomly assigned by sex to one of the three treatment groups. Form A of the *Diagnostic Reading Test: Survey Section* was used as the pretest and Form B as the posttest. Rate-of-reading scores were calculated by dividing the number of words by the time taken to read the selection. Comprehension scores were obtained from the number of correct answers to multiple choice questions based on the rate of reading and comprehension passages. All of the subjects completed both passages. The first group received training in rapid reading; the second recognition training followed immediately by rapid reading training; the third, the control group, received the pretest and posttest only. Six lessons from Umsted's (1970) "Braille Code Exercises" were used as the tactile recognition materials for the second group. The six rapid reading lessons were developed on the basis of levels of comprehension defined as "speed only," "bits and pieces" (disconnected and connected), "plot," "general," and "full" comprehension, with each level beyond the "speed only" level accounting for an additional 20 percent of the comprehension. The following instructions were used by the experimenter for guiding the teaching activities.

Instructions

☐ *Day 1* "1. Introduce the experiment by indicating the need to establish a base reading rate. The instructor should then administer the pretest to the student and note his reading patterns.

"2. Discuss reading as a function of habit. That is, the student most likely follows the same general pattern whenever he reads. Now, in order to read faster, the student must form new habits. Initially, the pattern of reading will probably be a rapid version of the one the student has been using.

"3. Discuss the concept of reading for 'speed only'—for no comprehension. During this process the hands or eyes move so that all words are encountered but no meaning of any sort is gathered from the words. This is an important concept and the instructor must explain it fully to the student.

"Speed only"

"4. . . . Although reading for disconnected 'bits and pieces' comprehension amounts to only a few words gathered with no continuity of thought, ask the student to tell what words he has just read after each timing. If the student asks, he may be told that the instructor hasn't read the material. The instructor should note and answer any of the comments and questions the student might have.

"5. The student must understand that the hour of home practice time, a minimum, is most efficiently used when divided into several parts. The appearance of a fatigue factor makes this necessary in most cases. The practice time should be broken into segments by changing activities or practicing at different times in the day. The techniques to be emphasized during home practice are those of the previous training session."

Home practice

Day 2 "1. Record the amount of practice for each day since the last training session on the Record Sheet.

"2. Discuss new ways of hand movement for increased speed. The following are only suggestions. The instructor should encourage formulation of patterns not listed if greater efficiency results. Possible hand movements are: (a) use more than one finger per hand, (b) hands at the center of the top line and each hand goes out from the center to the end of the line, (c) two or more lines are read at the same time. The instructor should caution the student that all words must be encountered.

Hand movements

"3. . . . Connected 'bits and pieces' comprehension is knowing several related ideas from the material just read. 'Plot' comprehension, the next higher level of comprehension, is fitting the material into a general course of action.

"Plot" comprehension

"4. Home practice should emphasize 'speed only' and connected 'bits and pieces' comprehension with a small amount of 'plot' level comprehension. The student should be reminded to keep increasing reading speed."

Day 3 "1. Record the amount of practice time for each day since the last training session on the Record Sheet.

"2. Discuss with the student the formation of new reading habits and continue to encourage experimentation. Increase the difficulty of the reading material to junior high school level.

"3. . . . For each trial encourage the student to use faster speeds unless otherwise noted. The review level or technique of comprehension involves going over the same material checking only the sections missed previously. After trials for any level of comprehension above 'speed only,' ask the student to relate any information just read.

Review comprehension

"4. The student should continue using reading material at the elementary and junior high school levels in equal amounts."

Day 4 "1. Record the amount of practice time for each day since the last training session on the Record Sheet.

"2. Discuss any questions and/or problems the student may have. Remind the student to encounter all words on the page.

"3. . . . The 'general' level of comprehension involves knowing the action of the story and understanding a few of the story's details. Ask the student to tell what he read for all the timings above the 'speed only' level of comprehension. *"General" comprehension*

"4. The student should use materials at the junior high school level this week."

Day 5 "1. Record the amount of practice time for each day since the last training session on the Record Sheet.

"2. The instructor should encourage the student to try faster speeds. Also, emphasize the value of continual experimentation for new reading patterns.

"3. . . . 'Full' level comprehension is equivalent to the amount of knowledge necessary for a book report. Ask the student to relate the information just read after each timing above the 'speed only' level of comprehension. *"Full" comprehension*

"4. Most of the practice materials this week should be at the adult fiction level with a few at the junior high school level."

Day 6 "1. Record the amount of practice time for each day since the last training session on the Record Sheet.

"2. . . . Ask the student to relate what he read after each timed reading.

"3. Suggest that the student continue practicing at home. The next session will involve only the posttest" (Wallace, 1973).

Results

☐ Data were analyzed with an exact analysis of variance with orthogonal partitioning for treatments for unequal cell sizes using the *Modified Abbreviated Doolittle* computer program available at Brigham Young University.

The pretest rate analysis of variance (see Table 1A) found significant differences between the sexes, with females (mean of 102.05 wpm) reading significantly faster than the males (mean of 56.550 wpm). Thus, the null hypothesis for sex was rejected. There was insufficient evidence to reject the null hypothesis for treatment and the treatment-by-sex interaction. For the posttest rate analysis (see Table 1B), there was insufficient evidence to reject the null hypotheses for treatment, sex, and the treatment-by-sex interaction. In the rate gain analysis (see Table 1C), there were significant differences among the levels of treatment. One orthogonal contrast found the control group (mean of 2.6725

TABLE 1
Analysis of Variance for Rate With Orthogonal Partitioning for Treatments

	A. Pretest Rate				B. Posttest Rate				C. Rate Gain			
Source	*df*	*MS*	*F*	*P*	*df*	*MS*	*F*	*P*	*df*	*MS*	*F*	*P*
Treatment	2	900.87	1.4892	ns	2	2840.0	2.0995	ns	2	6730.4	10.485	.005
Con vs. Exp 1 & 2 (1)	1	1591.8	2.6316	ns	1	3253.6	2.3927	ns	1	9396.8	14.638	.005
Exp 1 vs. Exp 2 (2)	1	163.21	0.2698		1	2188.2	1.6097	ns	1	3546.7	5.5250	.05
Sex	1	19962.	18.121	.005	1	3099.7	2.2796	ns	1	2403.5	3.7442	ns
Treatment X Sex	2	672.13	1.1111	ns	2	2157.8	1.5869	ns	2	925.92	1.4424	ns
(1) X Sex	1	423.11	0.6994	ns	1	17.392	0.0128	ns	1	612.07	0.9535	ns
(2) X Sex	1	973.48	1.6092	ns	1	4267.1	3.1380	ns	1	1164.3	1.8138	ns
Error	16	604.93			16	1359.8			16	641.93		

Source	A. Pretest Comprehension				B. Posttest Comprehension				C. Comprehension Gain			
	df	*MS*	*F*	*P*	*df*	*MS*	*F*	*P*	*df*	*MS*	*F*	*P*
Treatment	2	1.2002	0.1563	ns	2	0.2471	0.0350	ns	2	1.6883	0.6205	ns
Con vs. Exp 1 & 2 (1)	1	0.8926	0.1162	ns	1	0.2012	0.0285	ns	1	0.2463	0.0905	ns
Exp 1 vs. Exp 2 (2)	1	1.6056	0.2091	ns	1	0.2722	0.0386	ns	1	3.2000	1.1761	ns
Sex	1	0.6485	0.0844	ns	1	2.0132	0.2852	ns	1	4.9471	1.8182	ns
Treatment X Sex	2	11.002	1.4325	ns	2	4.9148	0.6962	ns	2	7.2066	2.6487	ns
(1) X Sex	1	19.188	2.4983	ns	1	0.6893	0.0976	ns	1	12.603	4.6321	.05
(2) X Sex	1	3.4722	0.4521	ns	1	9.3389	1.3229	ns	1	1.4222	0.5227	ns
Error	16	7.6802			16	7.0594			16	2.7208		

TABLE 2
Analysis of Variance for Comprehension With Orthogonal Partitioning for Treatments

wpm) significantly smaller than the combined experimental groups (mean of 44.996 wpm). The other contrast for treatment between the two experimental groups found the rate gain of the rapid reading group (mean of 61.642 wpm) significantly larger than the gain of the rapid reading and recognition group (mean of 28.350 wpm). The null hypothesis for treatment was rejected.

The evidence was insufficient to reject any of the null hypotheses in the pretest comprehension analysis (see Table 2A) and the posttest comprehension analysis (see Table 2B). The only null hypothesis rejected on the comprehension gain analysis (see Table 2C) was the treatment-by-sex interaction contrast comparing the control with the combined experimental groups for each sex. The combined experimental group mean of the females (1.1667) was greater than the male mean (—0.8333), whereas the male control mean (0.5000) was greater than the female control mean (—0.6000). The null hypotheses for treatment and sex were retained in this analysis.

Conclusions

☐ The results obtained in this study permit the drawing of several clear-cut conclusions as well as the raising of many questions. The conclusions may be summarized as follows:

1. Speeds of braille reading by touch which are as high as those found through the use of other teaching approaches were obtained in this study. Speeds of up to 225 words per minute were obtained with only six hours of rapid reading instruction. There were no indications that any subject had reached the upper limit of his speed, including those who had most rapidly increased their pace of reading. It would appear that with a longer period of instruction, braille reading speeds would be further increased.

Recognition training

2. Training in rapid reading techniques, combined with recognition training, produces gains in rate of braille reading comparable to those obtained from recognition training alone. However, these rates are below those obtained for rapid reading training alone. It may be logically assumed that if recognition training had been given prior to rapid reading training, the gains in rapid reading would have been even greater; further research is needed to validate this conclusion.

Comprehension

3. Rapid reading training does not decrease comprehension of braille materials read. It has been argued that reading more rapidly would reduce the amount of material retained. In the short period of immediate memory, there was no reduction. There still remains the question of whether this comprehension will be maintained over longer periods of time.

4. Rapid reading techniques improve the braille-reading rates of subjects, regardless of the initial reading rates. No evidence was obtained regarding the application of rapid reading techniques to beginning braille reading.

Implications

☐ The finding that rather high speeds of braille reading, without loss of comprehension, can be attained through a relatively short period of training suggests that perceptual theory, as discussed by Foulke (1970) and Nolan and Kederis (1969), needs to be modified. It would seem, rather, that the model which Geyer (1970) has proposed more nearly fits the data obtained in this study. For example, it would seem that the basic perceptual unit is not a spatial one. From the work of Geyer, it would appear that a temporal unit, i.e., a unit into which information is placed without regard to order of presentation, is an explanation of the findings of the present study. It may well be that both spatial and temporal units are involved in the reading process, and that training in one unit may complement the other. Further research needs to be done to devise methods for separating the contribution, if any, for each type of unit.

Spatial vs. temporal unit

It is not possible at present to anticipate the speeds at which braille reading may be possible. It is clear, however, that, during the few short lessons employed in this study, the reading speed showed no signs of reaching a plateau. The potential for developing increased speeds in braille reading should make this medium very competitive with other media presently employed, even for persons with low vision who can now read large type. The combining of rapid reading of braille with the technological developments of Grunwald (1966) and Ondricek, Meehan, and Love (1973) holds promise for much greater use of braille. However, problems of scanning, indexing, organizational format, and pagination are still to be resolved.

No upper limit found

Although many questions remain, rapid reading of braille is an approach which must be given consideration as a potential means for improving the effectiveness of braille as a communication medium. The improvement in reading rates, with no loss in comprehension, in a relatively few learning sessions offers promise for increased utilization of tactile media for a large number of blind persons.

New potentials for braille

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A Training and Employment Opportunity for Blind Persons With the Social Security Administration: Teleservice Representative

Western States

The U.S. Social Security Administration, in an effort to recruit competent telephone service representatives (TSR) and to train and place qualified blind and visually handicapped persons in such jobs, has been conducting a cooperative program in the eastern United States through which more than 50 visually handicapped persons have been so employed. This effort has now been expanded and a similar program has been started in the western United States. Funded by a research and demonstration grant from the U.S. Social and Rehabilitation Service, the program is being coordinated by Los Angeles City College. William L. Dauterman is project coordinator. The training is provided by the Social Security Administration, with referrals and training expenses being furnished by the state department of rehabilitation.

A Difficult Job

☐ Persons employed as telephone service representatives must know all there is to know about the current operation of Social Security and Medicare and must be familiar with other health and welfare programs. Beyond the pre-employment training program, the learning goes on continuously through in-service training to keep personnel up to date with the ever-expanding service program of the Social Security Administration. The job requires the TSR to be on the telephone eight hours per day. He listens carefully to ascertain what the real question is and responds with accurate information in an understanding manner. He must obtain necessary information from the caller and execute

(Continued on page 24.)

Evaluating the Work Potential of Blind Multiply Handicapped Persons for the Manufacture of Bath Perfume

ABSTRACT: To evaluate the work potential of blind, severely retarded, multiply handicapped persons, a model project involving the manufacture of bath perfume was established within an already existing program. Fifteen clients attempted to master one or more of the five work-station tasks in the operation (mixing, bottle filling, capping, labeling, and boxing). There were 48 successes in 58 attempts, for an 83-percent success rate. Of those successes, 75 percent were accomplished in only one two-hour working day.

R. B. BENTON, Ph.D.
N. A. PERMENTER
J. BAYLOR
P. McLELLAND

Dr. Benton is coordinator of research and Ms. Permenter is research assistant, Research and Training Center in Mental Retardation, Texas Tech University, Lubbock; Mr. Baylor is program specialist and Mr. McLelland is program director, the Sunrise Project of the Texas Commission for the Blind and the Austin State School for the Mentally Retarded.

While there is extensive literature on mental retardation (Baumeister, 1967), there is a paucity of information dealing with blind mentally retarded persons. Fry's (1971) annotated bibliography on work evaluation gives an indication of how much attention this sub-group has received. Little attention has been given to this group beyond the work evaluation stage (see Peterson, 1964, for example). Although the blind multiply handicapped group is relatively small, their needs are anything but small.

The present project was carried out at the Sunrise Project, a cooperative program of the Texas Commission for the Blind and the Austin State School for the Mentally Retarded, as an attempt to evaluate the work potential of the Sunrise clients, who are, by and large, blind, severely mentally retarded, and multiply handicapped.

The Plan

☐ The first step, of course, was to develop a suitable enterprise. It had to be something which blind mentally retarded persons could handle, preferably something which tapped senses other than sight. It had to be a process which depended upon human labor and was not readily automated. And finally, it had to involve minimal investment in raw materials and equipment and maximal marketability of the product.

The manufacturing of bath perfume seemed to meet these criteria. It has the special advantage of capitalizing on the blind worker's sense of smell. Hence, a proposal was developed and presented to the staff of the Sunrise Project. The objective was simply to test the idea and determine how successfully blind mentally retarded clients could work in such a sheltered workshop activity.

Reactions to plan

The Sunrise staff had mixed reactions. There was some question as to whether clients could work with liquids and glass bottles without excessive breakage and spillage. Some wondered whether clients could mix solutions and produce a product of uniform quality. Several questioned whether blind mentally retarded workers could maintain high production rates and develop a saleable product. After all, the National Industries for the Blind had previously explored the cosmetics industry and found it a "limited medium for the blind" (P. McCelland, personal communication, 1972). Despite such reservations,

it was agreed that the proposal be tested on a small scale and be accepted or rejected on the basis of actual facts and figures.

Materials and Procedures

☐ Construction was begun in one of the Sunrise Project buildings to accommodate the operation. The work was arranged to include a practice line for use in training clients and a parallel production line for clients who had demonstrated proficiency at the task and were ready to work with the actual raw materials. The materials and equipment used in the operation were FDAC coloring, emulsifier, perfume oil (strawberry, lilac, and apple blossom), four-ounce glass bottles and caps, labels, five two-gallon plastic storage containers (wide mouth), plastic measuring/dipping cups (one each—one, five, and eight ounces; eight —four ounces), two 15-gallon plastic storage containers, one box of disposable plastic gloves, two dozen red and two dozen blue poker chips, and boxes with liners and separators.

Selecting clients

The selection of clients to participate in the study was made through staff conferences. Observed behaviors, psychometric test results, social behaviors, and vocational potentials were discussed; finally, by staff consensus, the initial group of clients was identified. These clients ranged in age from 16 to 22 years, with Social Quotients ranging from 28 to 59 as measured by the Vineland Social Maturity Scale. The Mean S.Q. was 42, or an average social age equivalent of 7.3. The clients were blind, multiply handicapped, and primarily in the severe range of mental retardation.

Two groups

Clients were divided into two groups, each to work at the tasks three days a week for two hours per day. Initially, both groups were cycled through the "practice" line until they performed adequately, but later a morning group of clients was assigned to the "production" crew, and an afternoon group was considered the "practice" crew. In the practice phase, workers used water and gummed paper tape rather than perfume solutions and printed labels.

Work Stations

☐ The work tables were divided into six stations: mixing, bottle filling, capping, labeling, boxing, and stacking and inventory. Clients were brought in, assigned a station, and instructed in the requirements of the station. Under the guidance of two staff members, each client remained at his or her station for approximately two weeks or six work-days. Clients who were unable to perform the duties of the station to which they were assigned were transferred to other stations until they were matched with one commensurate with their capabilities. Clients who were unable to perform at any work station were dropped from the study, as was done with two individuals who broke an inordinate number of the glass bottles.

Record keeping

Records were kept of each client's performance for each day during the project. Such records helped the supervisory staff determine when a client was ready to be moved from the practice phase to the production phase. Assignment to the production line was made in such a way that each client had the opportunity either to work at each station or to settle in one permanent station. From the beginning, each client placed poker chips in his "bank box" to record each item completed. After three weeks of production, the project became governed by the existing token economy system at the Sunrise Proejct. The performance of each client was reinforced by tokens negotiable at the Sunrise Project com-

Tokens

missary. Four weeks later, service bells were introduced. Each client was instructed to tap his bell each time he or she filled a bottle, labeled a bottle, or completed any other assigned task. The purpose of this innovation was to determine whether knowledge of the activities of other workers would improve an individual's performance. The entire experiment continued for approximately four additional weeks, during which the three distinctive bath perfumes—strawberry, lilac, and apple blossom—continued to roll off the production line.

Problems

☐ In assessing the success of the experimental production line, problems cannot be overlooked. All did not flow smoothly. Indeed, one boy, mistaking the strawberry perfume for a soft drink, proceeded to drink the product. As mentioned, two clients were eliminated from the study due to high rates of glass breakage. Glass breakage served as a reliable indicator of potential for performing this type of work. At the bottle-filling station, another problem arose. Some clients were reluctant to immerse their hands in the bath oil solution—a step necessary in filling the bottles correctly. Apparently, the temperature of the solution, which was 50-55 degrees, disagreed with them.

Labeling problems

Other difficulties were encountered at the labeling station. Clients had to work with front labels and back labels, each with a rounded top and a square bottom. Punched holes in various areas were designed to help workers distinguish the labels for the three scents. However, the labeling jig required considerable effort if labels were to be applied correctly, and some clients experienced difficulty with the task. Still another problem occurred at the boxing station, where workers placed cardboard dividers in boxes and filled the slots with bottles. Subjects who had previously worked with peg boards were able to count and place the bottles, but those who had little or no experience with peg boards had a great deal of difficulty verifying filled and unfilled spaces. This suggests that there was some transfer of learning from previous experience.

Results

☐ Despite such tribulations, the results of the experiment clearly supported the general hypothesis that blind multiply handicapped persons can engage in work behaviors at a competitive level—if the tasks are carefully chosen and

TABLE 1
Number of Days to Master Each Attempted Work-Station Task

	Work Stations					*Totals*	
Clients	*Mix*	*Fill*	*Cap*	*Label*	*Box*	*Attempted*	*Mastered*
1	–	3	1	No	No	4	2
2	–	1	1	–	No	3	2
3	–	6	2	No	No	4	2
4	1	1	1	5	No	5	4
5	1	1	1	1	1	5	5
6	1	1	1	9	4	5	5
7	–	1	1	1	1	4	4
8	–	1	1	No	4	4	3
9	1	1	1	4	No	5	4
10	–	No	1	–	No	3	1
11	–	3	1	–	–	2	2
12	–	1	1	4	1	4	4
13	1	1	1	3	1	5	5
14	–	1	1	7	–	3	3
15	–	1	1	–	–	2	2
						58	48

Source	SS	df	MS	F
Between Groups	70.32	4	17.58	8.83*
Within Groups	85.65	43	1.99	
Total	112.31	47		

*Significant at the .01 level.

TABLE 2
Summary Table for Analysis of Variance of Days Required to Master Each Task

if appropriate supervision is provided. Table 1 shows the number of days that each client required to master each of the first five work stations; the last, stacking and inventory, was not included in the study. Briefly summarizing these results, we find that all five of those attempting mixing successfully mastered the task. Fourteen of the 15 clients trying to learn the filling operation were successful. All of the 15 clients attempted and successfully learned to cap the bottles. Only eight of the 11 who attempted the labeling operation were successful. Finally, of the 12 who tried the station for boxing the bottles, only six successfully learned to do it. This is a success rate of 83 percent—48 successes out of 58 attempts. Furthermore, these successes were attained in a relatively short time—75 percent of the masteries, 36 out of 48, were accomplished in only one working day. Table 2 summarizes an analysis of differences in the number of days required to master each station. Scheffe's test for multiple comparisons of means indicated that the labeling task was significantly more difficult to master than the other stations—supporting the observation, discussed earlier, that many clients had difficulty operating the labeling jig. The mean number of days required to master each station was 1.00 for mixing, 1.64 for filling, 1.06 for capping, 4.25 for labeling, and 2.00 for boxing.

83-percent success rate

Performance varied somewhat over time as a result of several factors. At the beginning, clients took predictable interest in the perfume odors and spent a great deal of time sniffing them. Gradually the production rate increased, particularly after tokens were introduced as a reward for increased production. Payment of tokens for number of items completed maintained work rates at a high and stable level.

Performance

The use of service bells for informing co-workers of progress did not appear to improve performance. Although the bells had an effect at first, performance abruptly dropped to the level it had been before the bells were introduced. Project supervisors noted that some clients had trouble incorporating the bell into their repertoires. Such learning problems appear to have outweighed the positive effects of knowing how one's co-workers were progressing.

Service bells

By the end of the experiment, clients were able to produce one case (100 bottles) of perfumed bath oil in each 55-minute work period. The market value of one case is estimated to be between $70.00 and $100.00, while the cost of raw materials required to produce one case was approximately $17.00. This means that the clients were working at a competitive level, one which could generate acceptable profits. This is not to suggest that everyone should rush into the production of bath oils; it does suggest that blind multiply handicapped persons have or can acquire work skills which permit them to participate in competitive production tasks.

Production

☐ Perhaps the most important outcome of the study is its shattering of stereo-

Conclusions

types regarding blind severely mentally retarded persons. The general public does not expect high performance from them, and even those who work with them possibly underestimate their capabilities. Prior to the start of the experiment, staff members were asked whether or not they felt that clients could productively participate in the project. Staff opinions were more or less equally divided between optimistic and skeptical. The doubts expressed by the staff were, for the most part, however, unfounded. The blind multiply handicapped adult *is* capable of meaningful work and can succeed if we set our expectations high and provide suitable opportunities.

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Social Security Teleservice Representative—*Continued from page 19.*

necessary forms so that follow-up can be carried out by other Social Security personnel. The TSR must become familiar with the health, educational, and welfare resources of the community so that he may direct callers to the appropriate agency when the call does not specifically concern the Social Security Administration. He must be able to "meet and deal" with difficult situational problems and at the same time maintain a warm and friendly regard for his telephone caller.

More Information

☐ Since the TSR is the primary contact person between the public and the Social Security Administration, only the very best employees are wanted. Qualified legally blind persons 21 years of age or older are encouraged to apply through the vocational rehabilitation counselor for the blind in the area in which the applicant lives. More detailed information about the eligibility criteria, application procedures, and the benefits of this kind of employment are available from W. L. Dauterman, Project Coordinator, Los Angeles City College, 855 North Vermont Avenue, Los Angeles, California 90029.

The Development of a Vocational Program in a Residential School for the Visually Handicapped

D. GARY COKER

Mr. Coker is principal of the Tennessee School for the Blind, Donelson.

ABSTRACT: The career education curriculum, which should be educational, personal-social, and vocational, aims at informing the student about the world of work, teaching him flexibility in work roles, and stressing the importance of leisure activities. Such goals can be pursued through technical training or through a work experience program. The Tennessee School for the Blind has an open-enrollment work experience program that is correlated with classroom work. Continued community involvement, so necessary to the success of such a program, is the responsibility of a school staff member.

The quality of education in our country is coming under serious attack. The United States produces more college graduates in one year than does two-thirds of the world in three years. We educators have been guilty of making young people cultured, walking encyclopedias who can quote Shakespeare, appreciate classical music, and have a good knowledge of history. Each year we produce millions of potential secretaries of state. We in the area of education for the visually handicapped are also guilty of emphasizing the purely academic side of education.

A Balanced Curriculum

☐ In this era of busy schedules, impressive titles, sophisticated products, and massive corporate structures, blind students have, at best, only a foggy notion of what people do when at work. We must continue to offer our strong academic programs and, at the same time, balance our curricula with "the world of work." Where and how a school approaches vocational education depends upon each school and its own particular circumstances. However, there are some basics that are essential to all programs.

Career development

Most educators are in agreement with the words of former U.S. Commissioner of Education S. P. Marland, Jr., "All education is career education." This has special significance for handicapped students. It is of paramount importance that those who are responsible for educational programs become aware of the factors which have implications for career development.

The beginning, of course, must be with the teaching staff. They must know the career implications of the subject they teach. Curriculum development in careers has to be systematic rather than happenstance. The children's first exposure to this approach is in the primary grades where they become aware that various occupations exist. If this is done properly throughout the elementary school, many of the job bandwagons that blind students jump on can be eliminated. The majority of students want to do something because they have heard some other blind person say that they were doing it. When students do this, they are really saying that they do not have a great deal of knowledge

about occupations. Even as educators we are sometimes guilty of perpetuating this situation.

Program Objectives

☐ We need several career education objectives in our elementary curriculum. For example, we need 1) to help the child appreciate all kinds of work in our society. Whether or not he chooses a particular vocation, a student is exposed to the idea that everyone's job is important. 2) We need to develop the concept of flexibility in the work role, since it is a rare person who makes a job choice at an early age and sticks with it. 3) We need to stress the importance of effective leisure time. What does this have to do with career education? Both work and leisure activities play an important role in the total development of the individual. Thus, learning about both of these areas is important, particularly for visually handicapped persons who are often socially inadequate and are unable to interact with their sighted peers.

Three pathways

During these early educational years, the vocational or career curriculum should be following three pathways: 1) educational—the manner in which the student goes about his educational pursuits, learning to work in school and improving his study skills, is the best indicator of his potential for a particular career or job; 2) personal and social—understanding himself, and learning about the environment and social relationships should be as much a part of the curriculum for the blind student as mathematics and language arts; and 3) vocational—discovering, investigating, and planning for the world of work through measuring interests, looking at specific jobs, and simulating work experiences.

Schools for the Blind

☐ Due to the newness of the majority of vocational education programs in residential schools for the blind, most find themselves needing to work on the third phase of the curriculum. It is this area that the Tennessee School for the Blind is presently trying to develop (details of our programs may be obtained by writing to the superintendent or the principal). What follows is a discussion of what I think is important in developing a vocational program at the secondary level, based on my own experience in a particular situation.

Two approaches

There is one purpose for vocational education and that is turning out graduates who can perform efficiently on the job. A school may pursue this goal in two ways however. It can try to provide technical training whereby students leave the school with a specific saleable skill, such as office occupations, electronics, mechanics, piano-tuning, etc. Or, it can provide work-experience to give the student a background whereby he can improve his skills through further practice. With our increased technology and the change of population in the residential school, the greater emphasis will probably be on work-experience.

Preparation, Development, Improvement

☐ In developing a curriculum at the secondary level, there are three distinct phases: 1) preparation, 2) development, and 3) improvement. In the preparation phase, course objectives are established; in skilled areas, these objectives are based on general knowledge, applications, resumés, interviews, employee relations, etc. During this first phase, it must also be decided who is going to be allowed into the program, based on prerequisites, course work, age, academic achievement, etc. In skilled areas, there must be definite prerequisites. For instance, a student could not enroll in a course for secretaries without prior

achievement in the area of typing, business, etc. However, prerequisites for a work-experience program should be confined to work laws, age, etc., and not to academic achievement; it should also not be limited to slow learners or become a "dumping-ground" for students.

Curriculum

Once the preparation stage has been completed, the curriculum should be developed. Here the instructional units are outlined in terms of specific tasks so that at the end of each unit the student will be able to do something that he could not do previously. A job-oriented point of view, to keep the subject relevant, should be adopted.

Work experience

It is during the development stages that all possibilities concerning employment are explored. Although most schools are moving toward the same objective, their approaches in this area vary somewhat. Most have a student work program that is separate from the curriculum and usually open to practically all students. In many cases this will be the student's first job. It can be a valuable experience, especially if it is interwoven with the vocational program. Many schools are setting up work stations and some are subcontracting jobs—all done on campus. These are instructional procedures and the approach must be determined by the student population involved. Although in many cases it is necessary for the student to have a job under somewhat controlled conditions prior to his employment in the community, an adequate program does not stop at this point; success is still determined by the student who is gainfully employed.

Job Availability

☐ How are students helped to start working in the community? First, a complete survey of job availability must be done. This is a full-time task for one instructor: he must go into the workplace, look at each job, find out what is involved, its importance, its learning difficulty, and then match the student with the job. Each job, regardless of its place in the organizational hierarchy, should have a task analysis. This analysis will allow the instructor to use his class time in the most relevant and productive way.

Schedule revisions

Before an off-campus program can be implemented, major revisions in the daily schedule will be necessary. Students will need their afternoons free for working, and, therefore, all required courses must be held during the morning hours. This schedule will also mean that many of the activities that traditionally take place in the afternoon, for example, band practice, wrestling, swimming, etc., will be in danger of losing students. In small schools this can exact a heavy toll on the organization of co-curricular activities. Staggered scheduling for both students and staff may, therefore, be necessary.

Classroom-job correlation

In a cooperative vocational program, students receive instruction in the school and on-the-job training through part-time employment. The training stations are planned and supervised by both the coordinator of the vocational program and the employer. Classroom instruction (an hour each day) is correlated with the work activities.

Open enrollment

I believe that all juniors and seniors in a high school should have the opportunity to participate in cooperative education. Simply because a student happens to be better than average in English, history, mathematics, Latin or science, or because he comes from a home of better than average opportunities,

should not prevent or disqualify him from enrolling in this program. Vocational education is to supplement and not supplant cultural, academic learning.

Community Gains

☐ Off-campus job opportunities are many and we have long been aware that blind students can be successful in many types of work. In addition to the benefits to the students, such a program can provide needed personnel for many sectors of the community. For example, it would help small businesses and factories that do not need full-time employees or companies that only need workers during rush periods. Since the school assumes the major portion of the basic training, the businesses are relieved of many problems and some of the expense of hiring a handicapped worker. A big advantage lies in the fact that many students may be retained on a full-time basis after graduation. Finally, such a program helps the employers and the regular employees to become familiar with the school and its programs.

Limitations

Even good programs, however, have limitations. Students may miss some extra-curricular activities. Individual vocational programs can be expensive to operate and often require major revisions of scheduling in the school and the allocation of time and money on the part of business and industry.

Staying up-to-date

The final phase of a vocational education program is improvement, to make it as up-to-date as the morning newspaper. All too often, when we have a student on the job, we feel that our task is completed. Continued improvement through regular evaluations, however, is critical. There are two important aspects in this phase, checking student performance against the stated objectives and checking the objectives against the job. Talk with the supervisor and ask specific questions based on the job analysis. Learning how a student is doing is that simple and does not require much analysis.

Summary

☐ In summary, I would like to say that vocational education is not a panacea. Those of us in residential schools realize that the student population is changing and that it is necessary to offer a widely diversified curriculum. Regardless of the specific instructional techniques and arrangement that might be used, we must have a coalition between the school and the local community. Blind students need programmed exposure to the real world of work.

Index for Volume 67 of the New Outlook (1973) Is Included With This Issue

Breaking Blind Stereotypes Through Vocational Placements

PETER ROSSI, JR.
MICHAEL MAROTTA

Mr. Rossi is an educational counselor/itinerant instructor, and Mr. Marotta is a vocational rehabilitation counselor, both at the New Jersey Commission for the Blind and Visually Handicapped, Newark.

ABSTRACT: How a person who is blind views himself is based on many factors, one of the most important being the attitude of society toward the stereotypical "blind person." In an effort to break this stereotype, agencies involved in vocational rehabilitation have an obligation to find placements which are unique and non-stereotypical. Such placements will help improve attitudes toward those who are blind, enable such persons to become contributing members of society, and help them to improve their self-concept.

Self-Concept

As early as 1934, Mead stated that man tends to respond to himself as others respond to him. Thus, a person's self-concept is determined largely from the reactions and attitudes others express toward him and his awareness of these reactions and attitudes. The consistency of this philosophy is evident in such publications as Snygg and Combs (1948), Cutsforth (1961), Hilgard and Atkinson (1967), and Symonds (1968) who state that self-concept is the result of the interaction between the attitudes of society and those of the individual. In other words, when the individual interacts with society, his definition of self is formed. It is important to note that by defining self-concept in this manner, the focus is not on the individual, but the individual's interaction with society and anything that affects it, such as a handicap and society's attitude toward the handicap. Thus, if a person is labeled or thought of as the stereotypical "blind person," rather than as a person who is blind, the resultant societal interaction will have a definite influence on the person and what he thinks of himself. It is because of this social learning that Scott (1969) proposes the thesis that "the disability of blindness is a learned social role" (p. 14).

Implications

This concept has tremendous implications not only for the education of those who are visually handicapped but especially for their vocational rehabilitation. This is true because the person who is blind must, if he wants help, interact with the existing organizations that have been established for the purpose of helping people who are visually handicapped. Thus, it is the obligation not only of the person, but of the organization to help break stereotypes in order to help him better adjust to his disability and improve his self-concept.

The role of education

An obvious answer to this problem would be to educate the public on the ability and heterogeneity of people who are blind. The perception of blindness and blind people by sighted people seems to be related to the amount of experience they have had with blind persons. The findings of Bateman (1962), supporting this hypothesis, indicate that sighted children's perceptions of the abilities of children who are blind are more positive if the sighted children had previously known children who were blind, and became still more positive as the number of known children who were blind increased. Bateman concludes that further public education about blindness would decrease the apparent tendency

for the sighted to underestimate or devalue the abilities of persons who are blind or severely visually handicapped.

Integration

☐ Bateman's results offer an answer to this problem. As with other minority groups, the answer is integration. If society, through integration, develops attitudes that are more positive, this change in attitude will be reflected in society's treatment of people who are blind.

Working in a Sighted World, a series of recorded interviews produced by the American Foundation for the Blind as a part of its public education program, focuses on people who strove to break into what were considered sighted occupations. Among these is the story of a funeral director whose main problem was coping with the prejudices and skepticism of the public. The work itself did not seem to present any problem.

Stereotype-breakers

Another is a nuclear physicist who, when asked how a "blind man" can work in such a field, replied that since the nucleus of an atom is about one trillionth of a billionth of an inch across, he can see it as well as anybody. In other words, a lot of what he is doing is on an abstract level and does not require sight for understanding. He is realistic about his limitations, however, and does delegate certain tasks to his assistants.

Graduates of the Seeing Eye in Morristown, New Jersey, can also boast of some stereotype-breakers in their midst. Among them are osteopaths, salesmen of all types, public officials, and many others (The Seeing Eye, Inc., personal communication, 1973).

The Agency's Role

☐ Agencies which are involved in vocational rehabilitation have a role in breaking the stereotype by integrating the person into new occupational areas. The New Jersey Commission for the Blind and Visually Impaired has had some success in the placement of persons who are partially sighted and blind in a number of rather unique non-stereotyped areas. This has been done mainly through a two-part effort. The first part is the seeking and devising of training programs which will prepare a person who is visually handicapped for positions that were previously closed to him. The second part is convincing prospective employers that a person who is visually handicapped is able to perform certain jobs as well as a person who is sighted.

Educating employers

The average employer is somewhat unnerved at the thought of meeting, much less hiring, a "blind" person. Some are resentful of being "put on the spot" when asked to hire a person who is blind and may act in an unfriendly manner. Once this initial barrier is overcome, it is often found that an employer's fears deal largely with the everyday problems that the person who is partially sighted or blind constantly faces, such as the need to travel to and from work or in the work area itself. Prospective employers are concerned that the person will bump into or trip over things, or otherwise cause harm to himself, others, or a valuable piece of equipment. This attitude is overcome by exposure to the visually handicapped person who, with some mobility training, along with common sense and caution, can negotiate a crowded area without mishap. These employers are also surprised to learn that many of their jobs can be done without sight.

Preparing the blind worker

The New Jersey Commission for the Blind and Visually Impaired, in a re-

port outlining the types of employment obtained by clients during the fiscal year of 1972, lists a number of placements that are somewhat out of the ordinary. Such placements are made possible when a visually impaired person develops methods of coping with on-the-job problems or when certain modifications are made on the equipment he must use.

One example of this is the switchboard operator. With some modification of the switchboard and the acquisition of a light-sensitive device that emits a whine whose pitch increases when near a light, a person who is totally blind can operate a switchboard with no problems. This light-sensitive device is available through Science for the Blind, Bala-Cynwyd, Pennsylvania.

Partially Sighted Workers

☐ Until recently, it was rare for a person who is partially sighted to be considered for a job requiring him to use his remaining vision. This attitude was a result of the idea that remaining vision would suffer if any strains were put upon it. However, by the early sixties, eye specialists gradually recognized that use of residual vision would not necessarily lead to its further deterioration. Using this concept, Barraga (1964) showed that visual efficiency could improve significantly by a short period of specialized instruction with appropriate materials. This gave rise to the encouraged use of residual vision and further advances in the development of low vision aids. Thus, with devices such as the Optiscope Enlarger (available from Opaque Systems Ltd. of New York), closed-circuit television reading systems, and other optical aids, the New Jersey agency has been able to place its clients in such jobs as stock clerk, mail clerk, accountant, and librarian assistant.

Placements by N.J. Commission

The New Jersey Commission for the Blind and Visually Impaired's list of out-of-the-ordinary placements continues with the following: chef, night watchman, construction worker, house painter, nurse, water ski manufacturer, electronic technician, television repairman, real estate salesman, school-crossing guard, security guard, longshoreman, fork-lift operator, bridge attendant, trainer of aquatic show horses, and medical doctor.

Volunteer work

A unique placement that has met with recent success is the use of geriatric persons who are visually handicapped (a group usually thought of as the recipients of service) as volunteers. The Community Service Society (1971) recently reported on the placement of 25 visually handicapped volunteers in New York in such settings as a state school for the retarded, senior center, a state hospital for the mentally ill, and a psychiatric hospital.

Summary

☐ By taking advantage of non-stereotypical placements, society and the person who is blind benefit. Society benefits because the person who is blind becomes a productive member of society rather than a burden. The person who is blind benefits the most because he gains a new positive attitude toward himself. He no longer considers himself a stereotypical "blind person," but rather a person first and a person with a handicap of blindness second.

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Occupational Information Library for the Blind

Card Catalog System

An expansion grant from the State of Michigan Bureau of Blind Services has been awarded to the Greater Detroit Society for the Blind to establish an occupational information card catalog system for the blind. The objective of this project is to provide a viable resource for more appropriate career selection and varied employment opportunities for persons with serious visual impairment, and to develop a mechanism which will lend itself to periodic up-dating without over-all revision. With this type of library, counselors for the blind and persons who are blind will have ready access to information relative to occupations in which blind persons have been successfully employed and can relate this information to their own vocational plans.

Two basic units

The library card-file system will be comprised of two basic units: 1) an occupational literature file containing a series of library cards listing all available literature relative to training, placement, and employment of the blind; and 2) a job description file consisting of individual file-cards divided into appropriate categories covering job titles, DOT codes, job descriptions, educational requirements, and special training and job modifications, if any.

Availability

☐ The two series of library file-cards will be made available at an estimated cost of $50 per set. The initial issue of the card catalog system should be available for distribution early this year. The occupational literature series will contain approximately 1,000 file cards. The job description series should contain approximately 500 cards. In order to keep the series up to date, periodic supplements will be issued to subscribers of the service. For further information, contact Occupational Information Library for the Blind, Greater Detroit Society for the Blind, 1401 Ash Street, Detroit, Michigan 48208.

Lawsuit on the Rights of Handicapped Children

A Class Action Lawsuit

On April 9, 1973, a class-action lawsuit was filed in San Francisco which may have profound impact upon the educationally handicapped (EH) program throughout the state. The suit was filed by the Youth Law Center of San Francisco on behalf of two educationally handicapped children residing in the South San Francisco Unified School District in San Mateo County. The San Mateo PTA found 800 students certified as eligible for EH programs but not able to get in because of the two percent limitation. Instead, the children were placed on waiting lists. The suit names as defendants state, county, and local officials and agencies and contends that the failure of the defendants to provide access to EH programs for all educationally handicapped children is unconstitutional and illegal.

The Plaintiffs

☐ The suit was brought on behalf of 1) all minors certified for EH programs and placed upon waiting lists and 2) all minors who are eligible for placement in the EH programs but who have not yet been certified for admission. This would include more than 500,000 EH California children who have been failing for years but who remain untested and unserved. In a lot of cases, school districts close their eyes to the fact that such children should be tested because they know if the youngsters are identified as EH they would become a part of the district's record of children waiting to be served in the EH program.

Two Percent Limit Is Opposed

☐ The lawsuit focuses on the state statute which limits enrollment in the EH program to two percent of the student population, but the relief sought is much broader than mere abolishment of this limitation. The plaintiffs have asked the court to declare that all educationally handicapped children are entitled to access to appropriate EH programs and exclusion of EH children from such programs violates their fundamental right to an education. The complaint has asked the court to declare unconstitutional the state statute limiting enrollment in the EH program to two percent and to order the defendants to admit all EH children on waiting lists into the EH programs. Sufficient funding for the EH program to support the inclusion of these additional children is also demanded. The plaintiffs further ask that the defendants be ordered to test, evaluate, and place all children who have not yet been certified for the program, and for the state defendants to establish a plan to insure that all school districts throughout the state identify and place all EH children. [An EH child is of normal to above intelligence, but is two years behind in his work and is unable to achieve in the program that the school district is offering him.] It is also requested that the defendants establish constitutionally adequate procedures, notice, and periodic review for parents to challenge the placement in or exclusion of their children from EH programs. Finally, the lawsuit asks that all parents be notified of the availability of the EH programs and advised as to procedure for enrollment of their children.

Funding is sought

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THE VISUALLY HANDICAPPED CHILD IN SCHOOL

Berthold Lowenfeld, Editor

Ten of the foremost authorities in the field contribute to this first comprehensive text on visually handicapped children—from the totally blind to those with a high degree of useful residual vision. With thorough consideration given to recent developments and changes, they discuss the special needs of these children and the specific techniques required for developing their communication skills and assuring life adjustment—physical, psychological, educational and vocational.
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Contributors: Berthold Lowenfeld, Ph.D., Author, *Our Blind Children—Growing and Learning with Them;* former Superintendent, California School for the Blind

Natalie C. Barraga, Ed.D., Professor, Department of Special Education, The University of Texas at Austin

Mary K. Bauman, M.S., Director, Personnel Research Center, Philadelphia

Philip Hatlen, M.A., Associate Professor, Department of Special Education, San Francisco State College

Freda Henderson, Ed.S., Elementary Supervisor, Tennessee School for the Blind

Grace D. Napier, Ed.D., Associate Professor of Special Education, University of Northern Colorado

Ferne Root Roberts, M.S., Asst. Professor, Program in Special Education, Hunter College, City University of New York

Geraldine T. Scholl, Ph.D., Professor, School of Education, University of Michigan

Stanley Suterko, M.A., Asst. Director, Institute of Blind Rehabilitation, Western Michigan University

Josephine L. Taylor, M.A., Bureau of Education for the Handicapped, Office of Education, U.S. Department of Health, Education and Welfare



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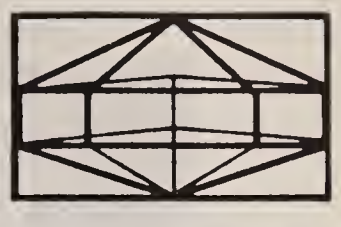
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Hindsight



What's Your Crutch?

During a meeting in Washington recently, I sat beside a newcomer to the field of rehabilitation, and found myself waxing eloquent for the benefit of his orientation. Among other things, I was analytically expounding upon the significance of the white cane—and then I waned. He had never either seen or heard of one.

It was rather a shock to me to encounter someone who sees no significance in the white cane. As I pride myself upon being one of those who detest minority labels, I often have disparaged the white cane myself, but I honestly didn't expect to find a citizen who has been totally ignorant of its existence.

There has been during the past few months a resurgence of interest and research-minded activity about mobility, and these oft-recurring flurries interest me greatly. I think it is about time I contributed to the literature on the subject, drawing generously upon my vast store of subjective opinionation, supported by practically no facts.

In the first place, one must examine the fundamentals of mobility. We humans get about in three principal positions—standing up, sitting down, or lying down. The latter is seldom a factor except in railroad train berths, ship's cabins, or ambulance or hospital stretchers. If one could afford it—meaning the equipment and the personnel—the lying-down method probably has the greatest appeal.

Sitting down, in my opinion, is the next best form of mobile posture. Some blind persons have reported incidents of having been met by strangers at their rail destinations accompanied by redcaps with a wheelchair. It somehow offends blind people to be treated as though they were orthopedically handicapped—but in these cases you at least have to admit they get really smooth service. I wasn't thinking of wheelchairs, though. I had in mind such sitting-down movement as in automobiles, wagons, buggies, trolley cars, busses, trains, and airplanes. Once a blind person gets himself well-ensconced in one of these, he has no further problem. Every one of them has a driver who has to look after himself and perhaps a lot of other people, and the blind person need not be greatly concerned about direction. Of course, if the blind person should wish to be the driver, then he encounters a rather sizeable set of obstacles. Among these is public prejudice. The social unacceptability of the blind certainly stands out sharply here. Why, I remember the time we bought the first family automobile. The insurance company representative checked up on the car, on our credit, and on the other facts usually required, and then issued the policy for fire, theft, and collision—fifty-dollar deductible, naturally. When the policy arrived, it had a special note written in after all the other "fine print"—but not in very fine print itself. "This policy is null and void," it declared, "if driver of insured vehicle is M. Robert Barnett."

I have often thought that bicycles and sailboats might make for mobility-magic for me. I liked them both before I lost my sight. I since have discovered that each is easily operated by a blind person who has had the good fortune to have learned the technique of balance with a bike and of trimming sails in a boat. There's only one trouble—and this is uncommonly noticeable in each case: one cannot tell where he is and where he is going, probably because he cannot see. I firmly believe that this is an area for considerable research, because I strongly doubt whether those studying the subject of sensory deprivation have yet generally accepted this concept. Until an explanation and solution are found, therefore, I urge all blind cyclists to use a tandem with a friend up front, and all blind sailors should take along another sailor. In each case, the blind person's mobility is even more favorably accomplished if the companion has strong muscles as well as eyesight.

Still in the sitting-down category, however, there might be something to be said for the horse. I often have heard blind friends muse about the possibilities they can see in a sort of Seeing Eye horse. Here is an area for study that may well produce early and practical results. For one thing, it would be exceedingly comfortable—which to my way of thinking is a basic "must." As I remember it, riding horses and motorcycles was somewhat similar. The only thing similar, of course, was in the rather pleasant sensation of motion that both can convey to the rider. The similarity ends rather abruptly when one thinks of them as a blind traveler. I now shudder to think of even trying to take off on a motorcycle. Strangely, I have never been on a horse since I was a sighted kid, and I think I will do a bit of research on my own one of these days soon. I hope it will be in company with a very docile and very intelligent horse.

The scholars should also review the experiences of blind skiing and skating enthusiasts. In classifying their findings, however, they might have some difficulty in determining whether these forms of movement are predominantly in the standing-up or the sitting-down bracket.

The topic I started out to discuss, however, was the white cane—which brings us to the category of mobility that is done in a standing-up position. Canes, as you know, are not all white. There are canes of all types—long ones, short ones, carved ones, and simple ones. Some have straight handles, some have crooked handles. Some are of wood, some of metal, and some of other material. Some are collapsible, some are telescopic, some are stationary and rigid. Some are designed to glow in the dark or reflect light. The more elaborate ideas produce canes with fine wire antenna-like feelers, and some are equipped with wheels. There are, of course, some blind persons who wouldn't be caught dead with any type of cane, and maybe someday they will be.



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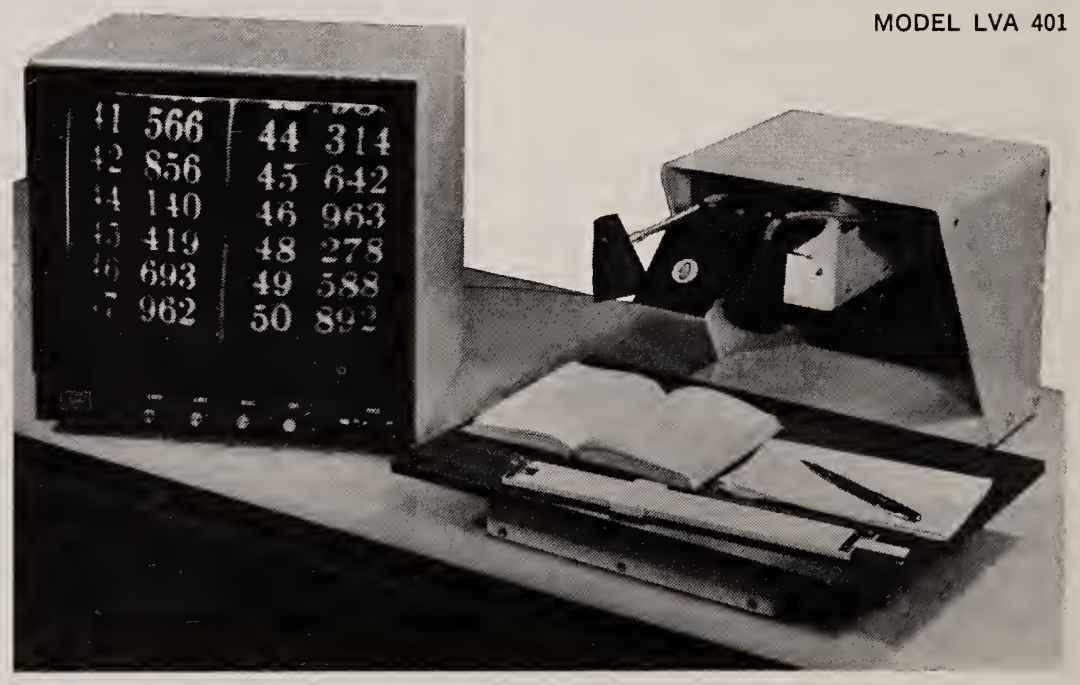
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Students of mobility, however, always seem to come back to another fundamental: when moving about in the standing-up position it generally is characteristic for the blind person to use a cane. Of course, he may not use it properly, but he uses it. And this, in case you are wondering, is the principal question that I was going to discuss: why does anybody use a cane, and more especially, a white one?

Even though a stick of some kind seems almost indispensable for detecting the terrain, I venture confidently to suggest that the use of a white cane does not have as a primary purpose any practical value of that sort. Rather, the use of a white cane by any blind person is an admission that he uses it as a crutch of a different kind—the advertising of himself as a blind person.

Normally, I am one of those who use no cane at all. Whenever I have tried one of the ever-with-you type—meaning the metal or wooden, straight—or crooked-handle variety—I have found that it is more of a nuisance than an aid. More often than not I find myself wishing that I could lose the darned thing and relax with my hand on the arm of the frequent friend.

The Lord should bless the man who designed collapsible canes. This is a device that can be kept out of sight when one does not need it—meaning as well when one does not wish to call attention to his blindness. But once left alone to negotiate a street crossing, a railroad station or a hotel lobby—then, out it comes, like a jack-in-the-box, to help guide me or you on our way. At such times, and if it is well constructed, it might even help to detect the presence of a step-up or step-down—but that isn't why we use one that is painted white. We want others to know that we are blind, and as in the case of sailing a sailboat, we really don't know in what direction we are headed.

All of this is quite all right. The scholars will find that dependency upon the indentification as well as the cane is a crutch that helps us all. I frequently use a white cane to avoid what otherwise might be really embarrassing or dangerous situations, but I may be a bit too dependent upon it as a crutch in my mobility technique. That's why it was a shock to meet a man who had never seen one—a man to whom it had no significance. If we who are blind must generally depend upon immediate identification by the public as a factor in mobility, and if we encounter very many people like him, then we will have to discover some more eloquent and unmistakable label of blindness. A Seeing Eye horse ought to do—that is, if we paint his legs white and his hooves red. That way, they might even let him park in New York City in otherwise restricted parking zones.

—M.R.B.

Reprinted from the February 1960 issue of the New Outlook for the Blind.

Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1000 words in length.*

Orientation and Mobility on the Farm—The Rural Report

Ned T. Jackson and George Kording

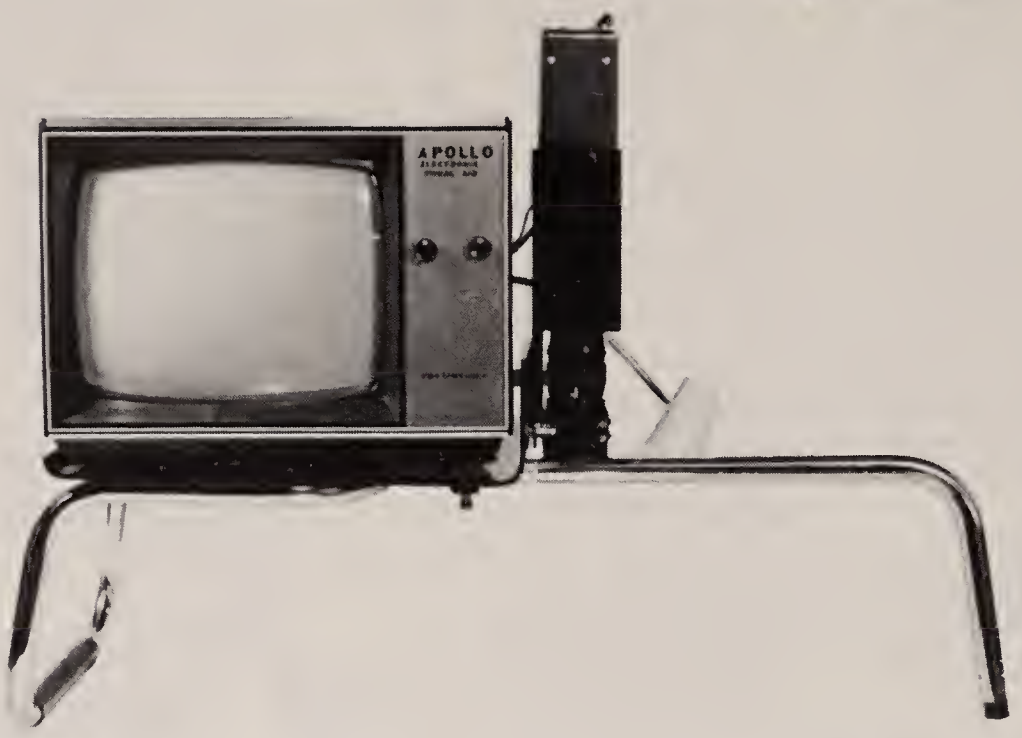
The teaching of orientation and mobility skills has long been centered in the urban areas and, in general, was intended for use in the city or small town. Such concepts as street patterning, intersecting sidewalks, use of traffic sounds, etc., have aided the city-bound traveler greatly. But what of travel in rural areas, where streets and sidewalks are nonexistent and traffic sounds are limited to tractor and truck noises, mostly in a barn lot or in a field? New guidelines need to be drawn to facilitate travel in the wide open spaces—the barnyards of Illinois!

The means of mobility must be similar for the country traveler as it is for his urban cousin. The long cane skills are quite adaptable to the country setting and are quite useful on the farm. Old standbys such as hand centerment, arc coverage, and proper cane length retain their importance as key guidelines for efficient cane travel, but several new situations arise on the farm that are unique to that setting. The basic skills, quite effective in the city, need some adaptation to be effective around the barnyard. Gloves need to be worn on the trailing hand to prevent picking up splinters from sheds or wooden fences, or cuts from barbed or woven wire fences. It is still recommended that trailing be done with the arm at a forty-five degree angle, but adjustment may be made depending on the height of the surface to be trailed.

Also, while trailing along barn or sheds, 4 buckle boots or hip boots are advisable, for along these buildings is where animals, especially pigs, deposit their manure. Canes may be used while trailing through these areas, but always remember to clean your cane before entering the house or car. This can best be done by placing the cane between your legs and pulling upward, scraping the dung on the pants of your bib overalls. The mess and smell will still be with you, but your friends and neighbors will forgive you, and no unnecessary negative attitudes toward the long cane will be developed.

Sighted guide techniques, again with minor changes, work quite well on the farm. The major difference is the prevalence of non-human guides. Dog guides do an excellent job but the farm dog has other duties to perform and cannot be expected to act as guide. Other farm animals

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do equally as well, however. Much consideration has been given to both horses and mules as guides, both of which would probably be efficient for farmers with a great amount of livestock, but the poor farmer must rely on lesser animals. Seeing eye chickens and ducks have proven efficient in some cases, with ducks more valuable because of their buoyancy in water. In the event a blind farmer falls into a well or farm pond, the duck will serve as a life preserver. As a direct result of this fact, farmers should try to conduct a "matchmaking session" to physically and emotionally match their duck. Large farmers who like to swim would prefer a physically large duck (for more buoyancy) who likes water. A small farmer who can't swim might prefer a small duck who dislikes water, or perhaps even a medium-sized chicken. Ducks are preferred, tho' as they never let you down.

Direction indicators and maintaining proper direction both are extremely important in barnyard familiarization. A farmer temporarily disoriented in the hog lot can and should use logic and reason to orient himself to the cardinal directions. As all farmers know, the manure in a hog lot is more prevalent at the east end of the lot in the northern hemisphere. This is based on the fact that, in general, winds in the northern hemisphere are westerly, and in the summer, the hog wants to avoid his own odor by doing his job downwind. This fact also applies in the winter, as a hog will always face into the wind (west) when doing his dirty work, thus keeping his tail warm. If the disoriented farmer finds a hog in the middle of a job, he can orient himself easily by locating the snout, which is pointing west. Unfortunately, trial and error must be used to locate the snout.

Cows are also meaningful for indicating direction. Anyone familiar with farm life knows cows walk the same route to and from the grazing pastures each day. A blind farmer wanting to go to the pasture can walk with the cows to the pasture and return with them in the evening. When using a cow as a guide, grab onto a horn (either horn—a good traveler can use either hand) and not the tail, as originally taught. This new method will bring about the best results in the end.

A blind farmer may venture out of his barnyard occasionally to inspect the crops. Orientation in a corn, bean, tobacco, etc., field can and should be maintained. Field rows always run north and south. This is done to enable the farmer to plow, disc, and cultivate all without ever driving into the sun. The wind is difficult to use as a means of orientation unless the field lies downwind from the hog lot. Birds are a great source of help while reorienting yourself outdoors. Geese, flying north for the summer or south for the winter, are good direction indicators, if you have time to wait. If a stream or creek runs near the field, it, too, can be used as a means of orientation. The tendency of water to seek the lowest level means that the creek will flow into a stream, the stream will flow into a river, a river will flow into the sea. This method is excellent if the farmer is in his field and wants to locate the sea. It's not nearly as helpful in locating other objectives.

These are but a few "helpful hints for the blind agricultural engineer" to better enable him to become a leader in his profession and to be outstanding his field!

Reprinted from the June 1973 issue of the Long Cane News.

Mr. Jackson is a teacher at the Illinois Braille and Sight Saving School; Mr. Kording is employed by the Illinois Department of Public Health.

The Elbow Has an Intelligence Quotient

William F. Gallagher

"Would you like to take my elbow?" is the question a sighted person should ask when offering assistance to a blind person at a street crossing or when he intends to guide a blind person in the direction he wishes to walk. The blind person should be allowed to take the sighted person's elbow and walk about half a step behind his guide, whether crossing the street, traveling along the sidewalk, or going up or down stairs. The blind person should have a gentle but firm grip just above the elbow of the sighted person. When this procedure is followed, the two persons may travel comfortably with assuredness and safety, and carry on a conversation at the same time.

If the sighted person offers assistance in a manner which is not what the blind person wants, he should inform the sighted person concerning the proper technique quietly and quickly. Sighted persons who are not familiar with blindness naturally do not know correct techniques, and it is therefore the full responsibility of the blind person to educate the person who has offered to help him.

A competent blind person finds elbows fascinating, revealing, and almost talkative. The first touch of the elbow tells the blind person whether the sighted person is nervous, frightened, or at ease. Some sighted persons are very uncomfortable when they meet a blind person for the first time, and this information is communicated through an unbending, rigid elbow. A relaxed, non-trembling elbow indicates that the sighted person is comfortable with the blind person.

The elbow gives away the height, weight, and shape. This last statistic is gauged through the relationship of the elbow to the hip. A blind person can gauge height from soundings of the voice and by using his own height as a measuring stick. As one clasps a generously rounded elbow that fills the grip, if the sound of the voice comes from below, the blind person knows that the one offering assistance is short and could be quite stocky. If the elbow is sharp and bony, and the voice comes from above, one visualizes a tall, thin person.

The elbow of a woman can tell the blind person whether she is completely feminine or leans toward some masculine traits—just through the softness, smoothness, or roughness and hardness of the skin. Dainty movements and gait may serve to indicate femininity, but jerky movements and a long, bold stride may suggest masculine traits.

If the blind person is a woman, she can visualize through her touch at the elbow of the man assisting her whether he is

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strong, athletic, robust, or of delicate physique. Be mindful here that his tailor may mislead her through false elbow pads! The texture of the garment can help fill in the picture.

Age can be perceived at the elbow through its dominant characteristics of wrinkles, flabby folds, uneven surface, and a touch of trembling. The elbow of youth has a jaunty spring with its step and wears a soft, tight, smooth skin.

The elbow is a sophisticated communicative device regarding the personality of the individual. A lazy, limp, dropped elbow may reveal that the person is one who seldom smiles and shows little facial expression, whereas a lively, moving elbow may indicate an animated personality and expressive face. The elbow can manifest warmth and a genuine sincerity or a cool aloofness.

An elbow with a high I.Q. can be extremely helpful to the blind person. It gives good clues as to when to slow down or walk faster, when to turn left or right, when to weave in and out of crowds, when to step behind the guide in order to follow through a narrow pathway, when to step up and step down, when a landing is reached, and it can make the blind person aware that people are approaching. The blind person can easily get the message from a well-trained elbow that it has already been thoroughly educated in the manner of assisting blind persons.

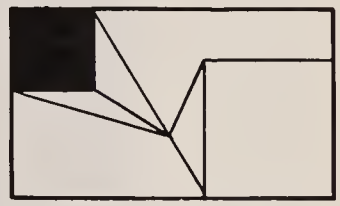
The elbow, in and by itself, is stripped of prejudice and accepts the person as he is. It raises itself to guide, unencumbered by curiosity to identify the religion, race, or background of the blind person. And, finally, it can be helpful in breaking down some of the emotional barriers that oft times stand between blind persons and sighted persons.

If heretofore you thought that an elbow is a nondescript part of one's anatomy, it is hoped that you now know better. The elbow can be a fascinating, sometimes beautiful, and always an informational piece of the human structure.

Reprinted from the October 1969 issue of Focus.

Mr. Gallagher is director of the Program Planning Department, American Foundation for the Blind, New York City.

Letters to the Editor



To the Editors:

I am writing to commend Carl T. Rodgers on the position taken in his comment "How Many of Us Are Extraordinary?" (*New Outlook,* May 1973, p. 235), regarding Dr. Tessie Okin's review of Harold Krentz's book.

I fully concur that the disability itself, rather than the attitudes of the non-disabled, is the primary source of handicap and for rehabilitation purposes an examination of the attitudes of the blind toward the sighted would prove more productive than the converse. In my opinion, many of the problems which the blind are wont to attribute to the sighted may be dealt with more effectively if they could be conceptualized in terms of the significance of nonverbal communication in interpersonal interaction, and the ways in which effective participation in this process is limited by the absence of visual cues. If the dimensions of this problem could be clearly defined and its implications for social interaction accurately assessed, the way would be clear for researchers, engineers, and other professionals to apply their know-how and creative imagination to the development of new approaches to the utilization of other sense modalities in eliminating or reducing this communications gap.

I assume that this is not a very popular point of view since I have found no exposition or even statement of it in any of the literature that I have read. If anyone knows of any written material dealing with it, I would appreciate hearing from them.

Thomas Dickey
Assistant Coordinator
Placement Counselor Training—Blind
Rehabilitation Institute
Southern Illinois University
Carbondale, Illinois 62901

To the Editors:

I have just received my November 1973 issue of *The New Outlook for the Blind* and read the article, "Sensory Aids for Blind Persons," by Forrest M. Mims. In this article the price of the Optacon is incorrectly given as $4,950. The price in small quantities has been $3,450 since March 1, 1973. In addition, the service agreement is only $100 for the first year. Tracking aids are usually not needed by individuals after training and are therefore not customarily purchased by them. In any case, the Model T-2A Tracking Aid is only $55.

These corrections represent a significant change and go a long way toward eliminating what Mr. Mims describes as "a major drawback".

James C. Bliss, Ph.D.
President
Telesensory Systems, Inc.
Palo Alto, California

To the Editors:

I enjoyed reading Joseph Wiedenmayer's article, "The Deaf, the Blind—and the Movies," *New Outlook for the Blind,* September 1972.

I would be very much in favor of a 50 percent discount as Mr. Wiedenmayer suggests. I would accept such a discount and would do what I could to help begin this program.

Edward Weiss
Cleveland, Ohio

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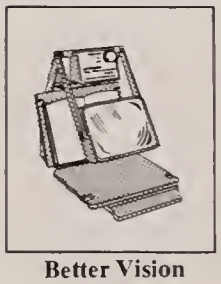
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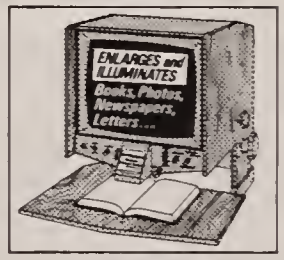
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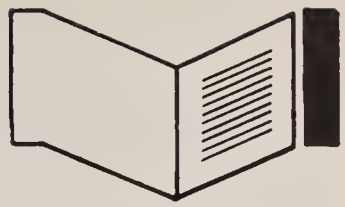
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Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, chief librarian.

The Meaning of Blindness; Attitudes Toward Blindness and Blind People, by Michael E. Monbeck. Indiana University Press (Tenth & Morton Streets, Bloomington, Indiana 47401), 1973, 214p. $6.95. This book, by the associate editor of the *New Outlook*, will be the subject of a special review in the near future.

Problems in the Education of Visually-handicapped Children, by M.D. Vernon. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London WIN 6AA, England), Vol. 57, No. 676, August 1973, pp. 198-200. Text of a paper presented at a one-day conference on the reading needs of the partially sighted in London, June 5, 1973, sponsored by the Library Association and the National Association for the Education of the Partially Sighted.

Estimates of Blindness in the United States, by Elizabeth M. Hatfield. *The Sight-Saving Review* (National Society for the Prevention of Blindness, Inc., 79 Madison Ave nue, New York, New York 10016), Vol. 43, No. 2, Summer 1973, pp. 69-80. Presentation of revised prevalence rates and new case rates for blindness in the entire United States and in each individual state. The rates have been updated essentially according to the method developed by Dr. Ralph G. Hurlin and are based upon data from the *1970 Census of Population, General Population Characteristics, Final Report.*

Blindness in the Toybox, by Edward M. Swartz. *The Sight-Saving Review* (see address above), Vol. 43, No. 2, Summer 1973, pp. 95-101. Text of a paper presented at the 65th National Conference of the National Society for the Prevention of Blindness, New York City, April 1973. Mr. Swartz, a Boston trial attorney, is the author of the 1971 book *Toys That Don't Care.*

Reading Speeds with Textbooks in Large and in Standard Print, by Louise L. Sloan and Adelaide Habel. *The Sight-Saving Review* (see address above), Vol. 43, No. 2, Summer 1973, pp. 107-111. Report on a study to obtain comparative measures of reading speed for both large and standard print when optical reading aids suitable for each size are used.

Survey of Needs in Ophthalmic Research and Development, by E. Cuyler Hammond and Harold F. Spalter. *American Journal of Ophthalmology* (Ophthalmic Publishing Company, 160 East Grand Avenue, Chicago, Illinois 60611), Vol. 76, No. 3, Part 1, September 1973, pp. 389-394. Results of a questionnaire survey of 297 ophthalmologists regarding diseases seen most often, those considered most difficult to treat, and disease categories most in need of clinical study and basic research. Reprint requests should be addressed to Harold F. Spalter, M.D., Research to Prevent Blindness, Inc., 598 Madison Avenue, New York, New York 10022.

Comparison of Creative Thinking Abilities of Blind and Deaf Children, by Gerald Halpin, Glennelle Halpin and E. Paul Torrance. *Perceptual and Motor Skills* (Box 1441, Missoula, Montana 59801), Vol. 37, No. 1, August 1973, p. 154. Brief report on a study comparing 34 blind and 34 deaf children matched for sex, race, and age.

Social Security Amendments of 1972: Their Effect upon the Blind, by Sumner Whittier. *The Braille Monitor* (National Federation of the Blind, 2652 Shasta Road, Berkeley, California 94708), September 1973, pp. 486-492. Text of a speech delivered by the author, who is director of the Aged, Blind, and Disabled Assistance Planning Office of the Social Security Administration, at the 1973 Annual Convention of the National Federation of the Blind, held in New York City.

Intelligence, Personality, and Demographic Correlates of Orientation and Mobility Skills, Personal-Social Skills and Vocational Skills of Blind Persons, by John H. Saylor. University Microfilms, Inc. (300 North Zeeb Road, Ann Arbor, Michigan 48106). Doctoral dissertation, Ohio State University, 1972, v + 95p. Order #72-27,097, $10.00. The relationship between the variables and performance tasks enumerated in the title was determined from a population sample of 84 legally blind persons referred by the Bureau of Services for the Blind in the state of Ohio.

Developmental Study of Tactile-Kinesthetic Discrimination in Blind, Deaf, and Normal Children, by Carolyn Brown Block. University Microfilms, Inc. (see address above). Doctoral dissertation, Boston University, 1972, xviii + 163p. Order #72-25,247, $10.00. Report on an investigation of the hypothesis that prolonged sensory deficit in one modality may affect perceptual development in another, intact, modality. The subjects were 184 children, 6 through 14 years of age, of whom 56 were congenitally blind, 56 were congenitally deaf, and 72 had normal vision and hearing. The tactile-kinesthetic tasks were weight discrimination, size discrimination and size-weight illusion.

Milton's Blindness, by Eleanor Gertrude Brown. Folcroft Library Editions (Box 182, Folcroft, Pennsylvania 19032), 1973. $7.00. Originally published by Columbia University Press in 1934, this long out of print title is now available in a reprinted edition.

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ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Agency Administration

The Price of Productivity: Who Pays?, by Ernest R. House. *Today's Education* (National Education Association, 1201 16th Street, N.W., Washington, D.C. 20036), Vol. 62, No. 6, September-October 1973, pp. 65-69. With the current emphasis on institutional accountability, the author cautions against overlooking accountability of another sort—to the individual. Responsiveness to "those at the bottom of the system" should not be sacrificed to hierarchical concepts of productivity.

The Rhetoric and the Realities of Accountability, by Allan C. Ornstein and Harriet Talmage. *Today's Education* (National Education Association, 1201 16th Street, N.W., Washington, D.C. 20036), Vol. 62, No. 6, September-October 1973, pp. 70-80. The authors, concerned that some accountability advocates, over zealous in their attempts to get quick results, will resort to scapegoating school officials, discuss numerous variables effecting pupil performance, and offer a list of safeguards which would serve to check the tendency to oversimplify in the pursuit of accountability.

Consumerism

The Limits of Consumer Participation in Public Social Programs, by David P. Fauri, *Public Welfare* (American Public Welfare Association, 1313 East 60th Street, Chicago, Illinois 60637), Vol. 31, No. 3, Summer 1973, pp. 16-28. "Social programs and the movement for client or consumer participation which grew and prospered during the 1960s now seems to be in decline as the Federal Administration searches for new alternatives. This thus appears to be a period in which to review where we have been." The author goes on to examine the factors which limit the participation of consumer-client groups.

Medical Sciences

Clinical Reactions in Children After Rubella Vaccination, by Amos S. Deinard, M.D., Thomas W. Hoban, M.S.P.H., and Homer D. Venter, M.D. *Health Service Reports* (U.S. Department of HEW, Public Health Service, Health Services and Mental Health Administration, Rockville, Maryland 20852), Vol. 88, No. 5, May 1973, pp. 457-462. Copies of the article should be requested from Amos S. Deinard, M.D., Box 60, University of Minnesota, Minneapolis, Minnesota 55455.

Life and Death and Medicine. *Scientific American* (Scientific American, 450 Madison Avenue, New York, New York 10017), Vol. 229, No. 3, September 1973. The entire issue is devoted to aspects of medical care in the United States.

Pamphlets

Four recent pamphlets available from the Cleveland Society for the Blind (1909 East 101st Street, Cleveland, Ohio 44106) are: **Look Through the Eyes of a Dog Guide**; **Don't Fear Cataract . . .Now There Is Help**; **Private Eye**; and **Grasp of Independence, Mobility.**

Two Out of Every 1,000 People are Legally Blind. An illustrated pamphlet of information about some of the things blind people can learn to do successfully, in order to lead more independent lives. There is also information about the New York Lighthouse, where blind people can go to get professional assistance in learning some of these things. In addition to English the pamphlet is available in Spanish, **De Cada Mil Individuos, Dos Son Legalmente Ciegos.** Copies can be obtained by writing to Cartoon, The New York Association for the Blind, 111 East 59th Street, New York, N.Y. 10022.

Periodicals

EPEX, a new periodical, produced by the Mental Health Association (EPEX:MHADC, 406 North Pinckney Street, Madison, Wisconsin 53703), is "a computerized national employment exchange bulletin serving the public and private employers and the professionals in the fields of Rehabilitation, Habilitation, Mental Health, Welfare, and Sheltered Workshops." The bulletin contains both job openings and situation wanted sections solicited nation-wide from public and private employers, as well as those extracted from the bulletins published by governmental agencies. First issue: July 1973. Subscriptions: $5.

Genetic Counseling, a new monthly publication produced by Genetics Clearinghouse (247 Fort Lee Road, Leonia, New Jersey 07605). First issue: May 1973. Subscriptions: $36 per year; additional copies to the same address, $9 per year.

Psychology and Perception

Industrial Mental Health & Employee Counseling, edited by Robert L. Noland. Behavioral Publications (2852 Broadway, New York, N.Y. 10025), 1973, xv+432 pp., $16.95. Part I explores the relationship between mental illness and industrial variables such as productivity, efficiency, and economic consequences of job disruption. Part II gives the historical background of employee mental health; Part III shows the approaches used in employee counseling; Part IV stresses the mental health of supervisory and managerial personnel; and Part V shows the latest trends for cooperation on the part of labor, management, and community resources.

Women in the Work Force: Confrontation With Change, edited by Mildred E. Katzell and William C. Byham. Behavioral Publications (2852 Broadway, New York, N.Y. 10025), 1972, vi + 76 pp., $7.95. "Concentrates on the problems and issues of providing higher level managerial and professional opportunities for women already employed."



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AIDS AND APPLIANCES

Instruments, Recreation Equipment. Complete catalog on request. Science for the Blind, Bala-Cynwyd, Pa. 19004.

Aud-a-Ball. Sound-source recreation ball for the visually limited. Catch it, kick it, throw it. Locate it by sound. Science for the Blind, Bala-Cynwyd, Pa. 19004.

BOOKS

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Order from:
American Association of Workers for the Blind
1511 K Street, N.W.
Washington, D.C. 20005

Dance and the Blind Child, by Ann Chapman & Miriam Cramer. For the dance teacher whose class may include a blind or visually impaired child. 16p. 75¢ from American Dance Guild, 245 West 52nd Street, New York, N.Y. 10019.

CATALOGS

Science for the Blind—Catalog on request—221 Rock Hill Road, Bala-Cynwyd, Pa. 19004.

PERSONAL

Situations Available

Mobility Instructor Supervisor. Joint appointment involves half-time employment at the Cleveland Society for the Blind as a Mobility Instructor Supervisor and half-time faculty position at Cleveland State University teaching in the Rehabilitation of the Blind sequence. Position requires Master's degree and specialized training and experience in Blind Rehabilitation and Mobility Training. Excellent opportunity to combine academic and practice careers. Please send resume to Harry Butler, Ph.D., Department of Social Service, Cleveland State University, Cleveland, Ohio 44115. We are an Equal Opportunity Employer.

Program Coordinator for undergraduate Blind Rehabilitation sequence in Department of Social Service. Position will involve administration of Blind Rehabilitation sequence, teaching in the area of rehabilitation, and assuming initiative in the development of curricular offerings in rehabilitation. Specialized knowledge and skill in Blind Rehabilitation preferred but not necessary. Will appoint at Assistant Professor rank, Ph.D. in Rehabilitation preferred; Ph.D. in related discipline with interest or specialization in Rehabilitation acceptable. If you think you qualify, if you wish to work in an interdisciplinary college department, and if you prefer the challenge of the integration of behavioral science and practice, please send your vitae to Harry Butler, Ph.D., Department of Social Service, Cleveland State University, Cleveland, Ohio 44115. We are an Equal Opportunity Employer.

Rehabilitation

Recovery of Disabled, After Trust Fund Financing of Rehabilitation, by Ralph Treitel. *Social Security Bulletin* (Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402), Vol. 36, No. 2, February 1973, pp. 23-31. Discusses in detail the Beneficiary Rehabilitation Program, a plan approved by Congress for the payment of rehabilitation funds to the disabled.

Statistical Surveys

Disabled-Worker Beneficiaries Under OASDHI: Regional and State Patterns, By Phoebe H. Goff. *Social Security Bulletin* (Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Vol. 36, No. 9, September 1973, pp. 3-23.

Visual Acuity of Youths 12-17 Years, United States. National Center for Health Statistics, Health Services and Mental Health Administration, U.S. Public Health Service. *Vital and Health Statistics* (Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402), Series 11, No. 127, DHEW Publication No. (HSM) 73-1609, May 1973, iv+44 pp., 75 cents. This report presents and analyzes the visual acuity findings in the noninstitutional population. Included are findings on binocular and monocular acuity, without and with correction. Racial, region, urban-rural, and income differentials in visual acuity are also assessed.

In Brief



■ A study of four prevalent eye diseases is being conducted in Framingham, Massachusetts, under the sponsorship of the National Eye Institute. The four-year study will concentrate on senile cataract, senile macular degeneration, chronic simple glaucoma, and diabetic retinopathy. Data will be collected for two years by the Boston University School of Medicine's Department of Ophthalmology. It is hoped that the identification of possible coexistent risk factors in the development of these diseases will be useful in defining the causes.

■ More than 11,000 handicapped people are employed in over 300 different jobs in Veterans Administration hospitals. They are employed as administrators, dental technicians, loan specialists, motor vehicle operators, prosthetists, and supply technicians. About 4,200 are amputees or have incurred a deformation. Some 1,200 have impaired vision, and another 800 have hearing or speech impairments.

■ Marian Held recently retired from the New York Association for the Blind, after 50 years of service. During her half century at the Lighthouse she was, at various times, a stenographer, director of direct services, and a special program consultant.

■ On April 25 and 26 a course bringing together the disciplines needed to physically and socially rehabilitate the partially sighted individual will be given by the staff of the Vision Rehabilitation Clinic at Boston University Medical Center. The use of optical and non-optical aids as well as nonmedical services will be stressed. The course will include short lectures, round table discussions, and actual patient presentations. Guest lecturers will be Eleanor Fay, M.D.; Mohandas M. Kini, M.D.; Lloyd Aiello, M.D.; and Alfred Rosenbloom, O.D. For further information write Carter B. Tallman, M.D., Vision Rehabilitation Clinic, Boston University Medical Center, 720 Harrison Avenue, Boston, Massachusetts 02118.

■ The National Easter Seal Society has published its 1973 directory of residential camps for the disabled. The 77 page booklet which lists 240 camps can be obtained for $1 from: National Easter Seal Society, 2023 W. Ogden Avenue, Chicago, Illinois 60612.

■ The Council for Exceptional Children announces the availability of four new tape cassettes: *Career Education—Its Nature and Need,* by Kenneth B. Hoyt; *The Right to Education,* by Thomas K. Gilhool; *Teacher Training in Special Education,* conversations with educators working in teacher training programs; and *Leadership Training Institute for Special Education* by Maynard Reynolds, Jack Birch, and Malcolm Davis. The tapes are $10 each, and can be obtained from The Council for Exceptional Children, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202.

■ *Large Print for Young Eyes,* a quarterly brochure of large print titles available from G.K. Hall & Co., lists ten new titles quarterly, in addition to current titles. Leading authors of children's books are represented in the selection, and several adult large print books recommended by young adult librarians are also included. For a copy of the brochure or for more information write G.K. Hall & Co., 70 Lincoln Street, Boston, Massachusetts 02111.

■ A braille check-writing service has been established by United California Bank. The service includes a "check-writer," which allows blind persons to label check reference information in braille, and a monthly bank statement in braille. The checkwriter consists of a two-part aluminum plate into which a regular check is inserted. Braille "cells" allow blind persons to print the date and dollar amount of the check, and also to braille check stub information. With the braille information on the checks

and the check stub, blind persons can reconcile their accounts when they receive the brailled monthly statement.

■ The Delta Gamma Foundation offers scholarships for the training of orthoptists and teachers and consultants for visually handicapped children. Applications and further information on the scholarships can be obtained by writing to Delta Gamma Foundation, 3250 Riverside Drive, Columbus, Ohio 43221. A brochure containing basic information on orthoptics, *A Career in Orthoptics,* is available from the American Orthoptic Council, 555 University Avenue, Toronto, Canada M5G 1X8.

■ Physicians in Virginia have been put on the alert against trachoma, after several cases were discovered in that state. The need for vigilance in symptom recognition was the subject of a report at the annual meeting of the Southern Medical Association. Trachoma, generally occurs in dry or desert climates, and where the living conditions are unsanitary and crowded. For this reason it may be overlooked in other areas. Also, it may resemble chronic conjunctivitis, but if treated as such, it can be aggravated. Doctors reporting on the condition add, however, that once suspected trachoma is easily differentiated.

■ Teleprompter, cable television serving upper Manhattan, has devoted channel F to the presentation of current books. Each day a new chapter is serialized and will run continuously for 24 hours. Books presented include Adam Smith's *Supermoney,* Frederick Forsyth's *Odessa File,* and Peter Maas' *Serpico.* For more information about the service, write Joe Goth, Teleprompter, Inc., 50 W. 44th Street, New York, N.Y. 10036.

■ The recent reorganization of the Veterans Administration's Department of Medicine and Surgery is the first major reorganization of the VA medical system since 1966, and is designed to give the 169 VA hospitals a stronger voice in the central office. Agency spokesmen, stressing that the move was not made for reasons of economy, cited the three major changes which should give the hospitals a more direct communication line to the top: 1) Like functions within the department have been consolidated to create clear lines of responsibility; 2) Responsibility for field operations has been elevated to the number three position in the department, and 3) Regional medical directors have a more narrow span of control as a result of increasing the number of medical regions from four to seven. Other changes include transfer of the Department's budget staff to the associate chief medical director for operations, organization of a communications and inquiries staff to improve the quality of timeliness of correspondence and communications, and the establishment of a management appraisal staff larger than the former evaluation service.

Correction

■ The *New Outlook* regrets the erroneous report in the October "In Brief" column that "selections from the New York *Times in Review* are again available on 10-inch, 16 2/3 RPM discs. . . .from National Braille Press." According to Louis S. Dennis, managing director of the Press, the Press will record the *New York Times* "Week in Review" on an individual basis if the person supplies both the print copy of the "Week in Review" and the cassette. A person may supply a 90-minute cassette himself or be billed by the Press for it. For specific information, write Mr. Dennis at National Braille Press, 88 St. Stephen Street, Boston, Massachusetts 02115.

Appointments

■ Seeing Eye, Morristown: **Dr. Michael John Hogan; Dr. B. Franklin Hoerlein;** and **Joseph Kohn,** grants advisory council members.

■ Birmingham Veterans Administration, Birmingham: **Dr. Benjamin B. Wells,** director.

■ President's Committee on Employment of the Handicapped, Washington, D.C.: **Bernard Posner,** executive director.

■ Florida State University, Tallahassee: **K. C. Sykes,** program leader, education for special needs.

■ New York Association for the Blind: **James H. Richardson,** associate executive director.

■ Blinded Veterans Association: **Clyde W. Waugh,** national president.

Awards

■ New York Association for the Blind, annual award: **Dr. George Wald,** professor, Harvard University.

Coming Events

January 13-20 Australian and New Zealand Association of Teachers of the Visually Handicapped, biennial conference, Brisbane.

January 16-19 American Optometric Association, Fifth Annual Conference Week, San Antonio.

January 28-February 1 Council on Social Work Education, Atlanta.

March 14-17 Greater Washington Area Council of Adoptable Children, Fourth North American Conference, Washington, D.C.

April 14-19 Council for Exceptional Children, 52nd Annual International Convention, New York City.

April 25 Association for Research in Vision and Ophthalmology, Annual Spring Meeting, Lido Beach, Florida.

April 25-26 Vision Rehabilitation Clinic, Vision Rehabilitation Course, Boston.

May 7-8 National Braille Association, Regional Meeting and workshops, El Paso, Texas.

May 19-24 National Conference on Social Welfare, Cincinnati.

May 24-25 International Association for the Prevention of Blindness, Conference on the Prevention of Impaired Vision and Blindness, Paris.

June 2-7 American Association on Mental Deficiency, 98th Annual Meeting, Toronto.

June 9-14 Special Libraries Association, Toronto.

June 16-24 World Conference of Physical Therapy, Montreal.

June 17-28 American Home Economics Association, Atlantic City, New Jersey.

June 24-29 Association for Education of the Visually Handicapped, San Francisco.

AFB Offprint Series

From the **New Outlook for the Blind:**

4. The Blindness System, by Donald A. Schon (a seminal study of the complex network of visually handicapped persons, the agencies and groups that serve them, the training and research that affect services, and the laws and policies under which services are provided). 12 pages, 20 cents; 10/$1.90; 20/$3.50; 50/$7.50.

6. CCTV Reading Systems. Two articles and a supplementary bibliography and list of sources. 15 pages, 25 cents; 10/$2.40; 20/$4.50; 50/$10.00.

8. Counseling Families of Severely Visually Handicapped Children, by Helen E. Froyd, M.S.S.S. Five pages, 15 cents; 10/$1.40; 20/$2.50; 50/$5.00.

10. Modeling: An Effective Behavior Change Technique for Teaching Blind Persons, by Georgia Burleson (This technique involves the demonstration, or modeling, of desired, but fear-arousing, behaviors by the instructor for the rehabilitation client to reduce his anxiety about performing them himself.). Ten pages, 20 cents; 10/$1.90; 20/$3.50; 50/$7.50.

11. Optical Aids: An Interdisciplinary Prescription, by Randall Jose, O.D., and Donald Springer, O.D. Seven pages, 15 cents; 10/$1.40; 20/$2.50; 50/$5.00.

12. The Response of Individuals Beginning Work With Blind Persons, by Allan L. Ward. Five pages, 15 cents; 10/$1.40; 20/$2.50; 50/$5.00.

13. Sensory Stimulation: Two Papers, by Robert H. Carolan (on the provision of adequate sensory input for blind infants—necessary for proper development—and for blind nursing home residents—necessary for continued adaptive functioning). 12 pages, 20 cents; 10/$1.90; 20/$3.50; 50/$7.50.

14. The Severely Visually Impaired Population as a Market for Sensory Aids and Services: Part One, by Louis H. Goldish. Eight pages, 15 cents; 10/$1.40; 20/$2.50; 50/$5.00.

18. The Visually Impaired as a Market for Sensory Aids and Services; Part Two—Aids and Services for Partially Sighted Persons, by Louis H. Goldish and Michael H. Marx. Eight pages, 15 cents; 10/$1.40; 20/$2.50; 50/$5.00.

19. Voluntary Agencies: New Roles? New Responsibilities? New Problems? Three articles on the changing pattern of service, accountability, and fund raising. 22 pages, 35 cents; 10/$3.40; 20/$6.50; 50/$15.00.

From the **AFB Research Bulletin:**

1RB. The Beautiful Blind, by Chester A. Winton (a study of legally blind young adults who have a positive view of themselves and the role that work has in affecting that view). 23 pages, 35 cents; 10/$3.40; 20/$6.50; 50/$15.00

2RB. The Blind Child and His Parents: Congenital Visual Defect and the Repercussion of Family Attitudes on the Early Development of the Child, by G. C. Lairy, M.D., and A. Harrison-Covello, M.D. 24 pages, 35 cents; 10/$3.40; 20/$6.50; 50/$15.00.

3RB. Computer Programmer Training for the Blind and Visually Impaired: A Case for Quality Standards and Professionalism, by I. Constance Walker. 18 pages, 30 cents; 10/$2.90; 20/$5.50; 50/$12.50.

4RB. Defining Blindness. Five articles. 23 pages, 35 cents; 10/$3.40; 20/$6.50; 50/$15.00.

Background Papers—Fiftieth Anniversary International Seminar on Science and Blindness, October 25-27, 1971

1BP. Blind Mobility: The State of the Art in Navigation and Orientation, by J. Alfred Leonard. 13 pages, 25 cents; 10/$2.40; 20/$4.50; 50/$10.00.

2BP. Evaluation of Severely Visually Impaired Children, by Joan B. Chase. Ten pages, 20 cents; 10/$1.90; 20/$3.50; 50/$7.50.

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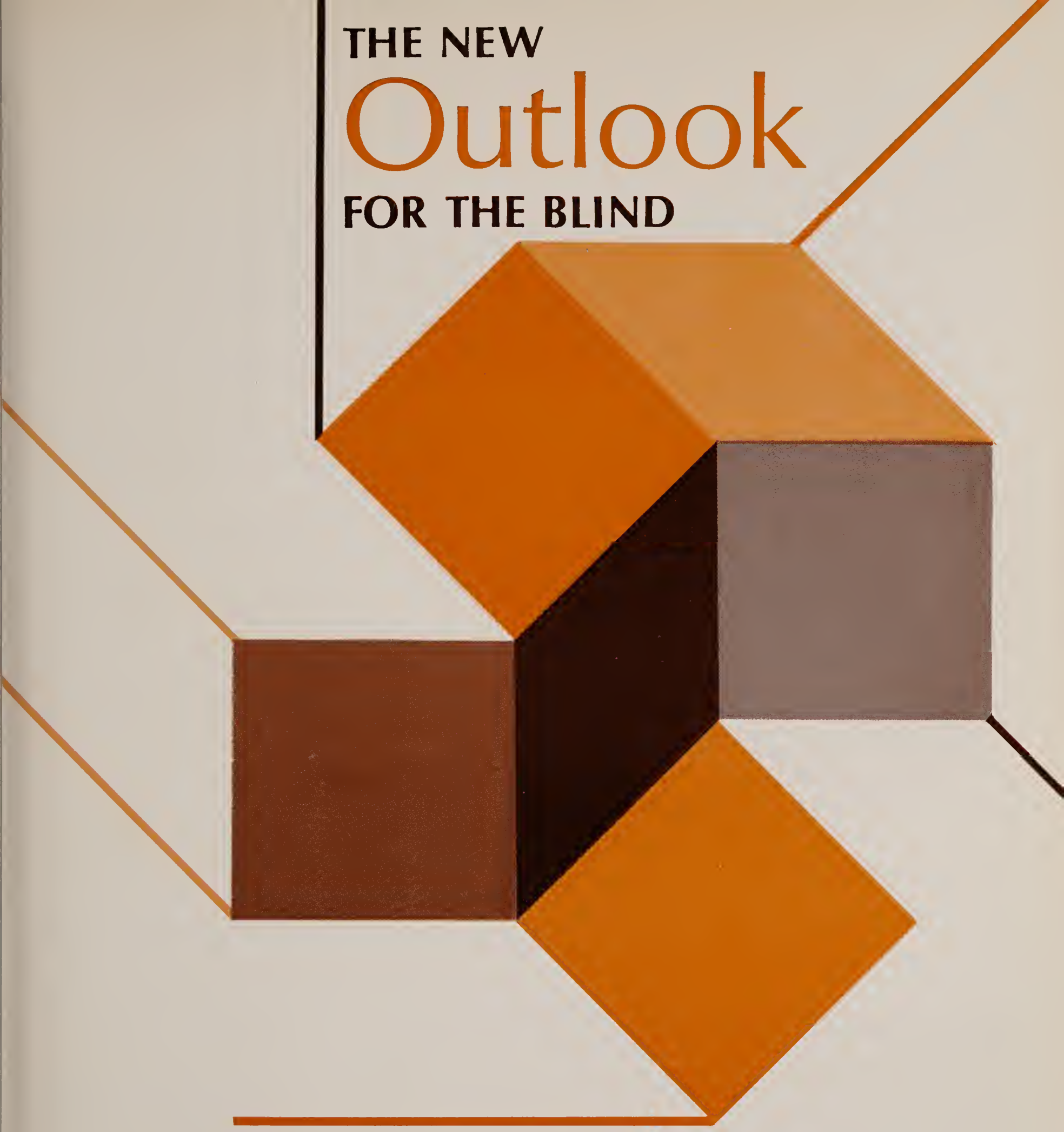
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* Copies available in many local libraries, and in braille and recorded form from the Library of Congress. Or you may order copies in inkprint from the National Accreditation Council.

NAC

THE NEW Outlook FOR THE BLIND



February 1974 Volume 68 Number 2

The Optacon: A Valuable Device for Blind Persons
Louis H. Goldish and *Harry E. Taylor*

A Retrospective Study of Retrolental Fibroplasia
Joan B. Chase, Ed.D.

THE NEW
Outlook
FOR THE BLIND

February 1974 Volume 68 Number 2

Articles

49 The Optacon: A Valuable Device for Blind Persons
Louis H. Goldish and *Harry E. Taylor*

57 Assessing the Readiness of Blind Persons for Vocational Placement
Edouard L. Wilson

61 A Retrospective Study of Retrolental Fibroplasia
Joan B. Chase, Ed.D.

72 The Practice of Guide Dog Mobility in the United Kingdom
Howard Robson

Departments

79 Guest Editorial—Irvin P. Schloss

80 Hindsight

83 Letters to the Editor

85 Review—*Like Other People*
Help for the Handicapped Child
Getting It All Together

89 Comment—Peter J. Salmon

91 Current Literature

95 In Brief

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The Optacon: A Valuable Device for Blind Persons

ABSTRACT: Based on an independent survey of more than 100 blind users of the Telesensory Systems' Optacon—a reading device utilizing print-to-tactual-image conversion—which included questions about the characteristics of the user, the uses to which the device is put, advantages and disadvantages, reliability, training, the manufacturer, and costs, the Sensory Aids Development Program of the American Foundation for the Blind concludes that the Optacon is a useful device and a sound investment for many types of uses by many different kinds of blind persons.

LOUIS H. GOLDISH
HARRY E. TAYLOR

Mr. Goldish, a consultant to the Sensory Aids Development Program of the American Foundation for the Blind, is vice president of Technical Marketing Associates, Concord, Massachusetts; Mr. Taylor, a consultant to Technical Marketing Associates, assisted in the survey and the analysis of the results.

The Optacon, the electronic device that converts printed images into direct tactual representations which can be felt and read by blind persons, has been commercially available for only about two years, and its purchase price, currently $3450, represents a major investment for blind persons or agencies. For this reason, many potential users are unsure as to whether they should purchase an Optacon, and some agencies are reluctant to invest in it. They wish to know more about the Optacon. Is the Optacon a useful device? Is it worth the money? How much training is required? What makes a successful Optacon user?

Most Optacon evaluation programs conducted to date have not been designed to provide these answers. For this reason, the Sensory Aids Development Program of the American Foundation for the Blind (AFB), as part of its market research and development activities, undertook to provide such information to potential users and to service organizations. The Sensory Aids Program conducted in-depth interviews either by telephone or in person with over 100 Optacon users in the United States. Optacon training organizations and agencies serving the blind also were interviewed. The survey was funded and administered solely by the American Foundation for the Blind. No other organization has control over the survey or over publication of the results.



500 in use

Following years of development and testing, the Optacon was introduced commercially in late 1971. By the end of 1973, over 500 Optacons were in use throughout the United States and in over 15 foreign countries. This number is expected to increase even more dramatically since some agencies and foundations are now beginning to underwrite training and dissemination programs.

Who Uses the Optacon?

☐ The profile of Optacon users interviewed in the AFB survey indicates how varied the Optacon user population is. Users now range in age from eight to 67 years, although half the current users are between the ages of 25 and 39 (Figure 1). This age group encompasses individuals who are most likely to be seeking to further their career opportunities. If employed or employable, they can most easily justify the expenditure for an Optacon. The 15 to 24 age group encompasses many secondary and college students, while the 40 to 59 age group includes older employed individuals.

Students and professionals

Almost 80 percent of the Optacon users are either college students or college graduates (Figure 2). College students must read extensively in a variety of materials. College-graduate adults are more likely to be employed in professional occupations requiring a considerable amount of specialized reading. Thus, while Optacon users are engaged in a wide variety of occupations, the professions predominate (Figure 3). With the establishment of programs for introducing the Optacon at the primary and secondary school level, its use by younger students will probably increase over the next few years.

Computer professionals

Computer professionals comprise the largest homogeneous group of Optacon users at this time. This probably can be attributed to their familiarity with technologically advanced devices, to effective exchange of information within the blind computer professional group, and to a particular suitability of the Optacon for computer professionals. The social workers and administrators employed by blindness agencies either serve as Optacon instructors or have taken advantage of Optacon programs in their agencies and now use the device in their personal activities.

Other characteristics of users

The Optacon is used by persons who are congenitally blind as well as those adventitiously blind. The adventitiously blind user group includes those blinded in their youth as well as those having lost their sight in middle-age, and includes those who have been blind for many years as well as those who recently became blind. Two deaf-blind users also were encountered.

Left-handed as well as right-handed persons are using the Optacon. Although a modified Optacon is available for them, most left-handed users have found the conventional configuration satisfactory.

The Uses of the Optacon

The Optacon is being utilized for a wide variety of occupational, educational, and personal reading tasks. The AFB survey indicates that, with the exception of users who participated in Optacon developmental research or in evaluation programs, most Optacon users who obtained the device on their own initiative have done so primarily for occupational or educational purposes. Many users cited increased independence as the principal reason for purchasing the Optacon, and comments such as, "I think the Optacon will enhance my employability" were common.

Most utilize the Optacon for reading not only on the job or in school but in personal activities as well. Thus, while employed Optacon users ranked employment-related reading as the principal use for the Optacon, reading personal mail was ranked next in importance (Figure 4). Users appreciate the ability to read much of their own mail independently and in privacy.

Reading materials

Almost 60 percent of the respondents indicated that the Optacon was best suited for reading short items—selections from books, short reports, articles, or reference citations—rather than for the reading of longer works. Nevertheless, books ranked a high third in frequency of Optacon use. While a few users indicated that they read books primarily as a practice exercise to build speed, many indicated that they are now able to read books of specific interest to them which are not available in braille or in recorded form. This, they claim, justifies the considerable time and effort required to read a book with the Optacon. Approximately 15 percent of the users cited the value of the Optacon for reading technical and reference material, most of which is not available in braille or on tape.

Figure 1

Age Distribution of Users Surveyed

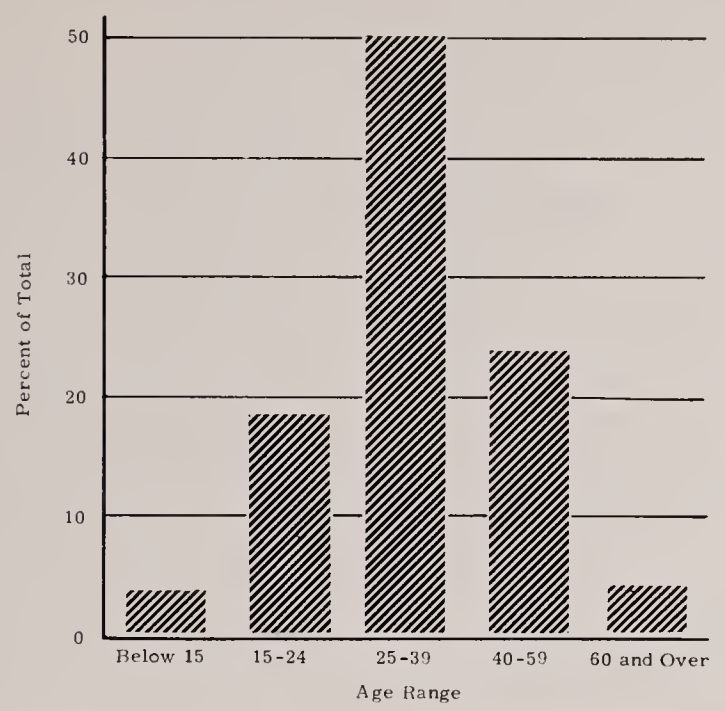


Figure 2

Educational Level of Users Surveyed

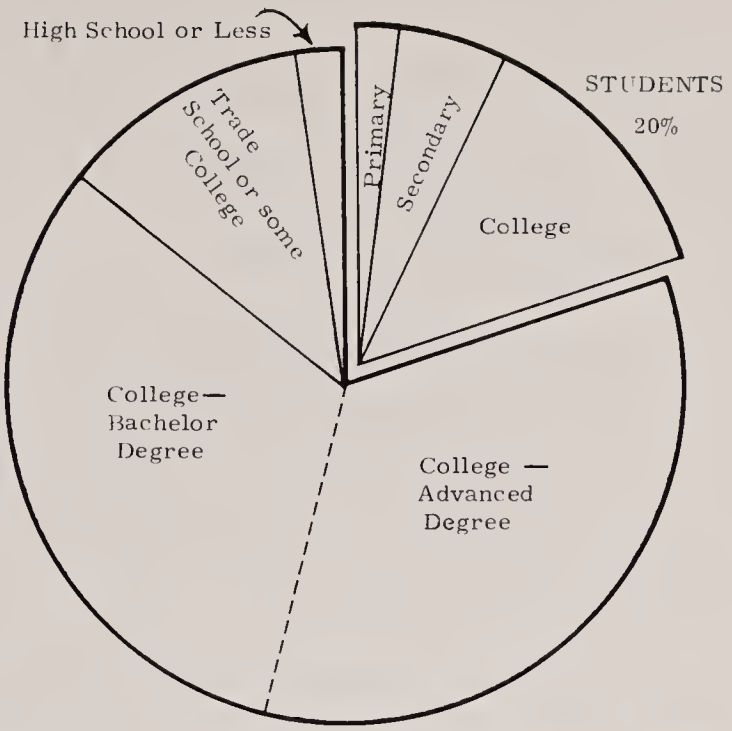


Figure 3

Occupations of Users Surveyed

Figure 4

Principal Applications of the Optacon

Uses with computers

The Optacon has been found particularly suitable in a number of employment situations. The Optacon is well-suited for use by blind computer professionals since computer output has a standard format, a computer user knows his own program, and the vocabulary of the programming language is limited. Many computer professionals indicate that although reading braille is much faster and requires less effort than reading with an Optacon, the Optacon eliminates the need for special printout and, in the long run, reduces program turn-around time. Programmers indicate that the Optacon allows them to examine printouts and program flow charts in their actual format. Thus, they

are aware of columnar structure, positions of headings, and overall layout. Punched cards can be read, and data displayed on television-like CRT terminals can be read using the latest model Optacon with a special attachment.

Independent reference work by students is facilitated by the Optacon, and science and engineering students claim that they can understand complex mathematical notation more easily when it can be read in actual format. Students and others who use electronic calculators can now read the numerical output with a special Optacon attachment.

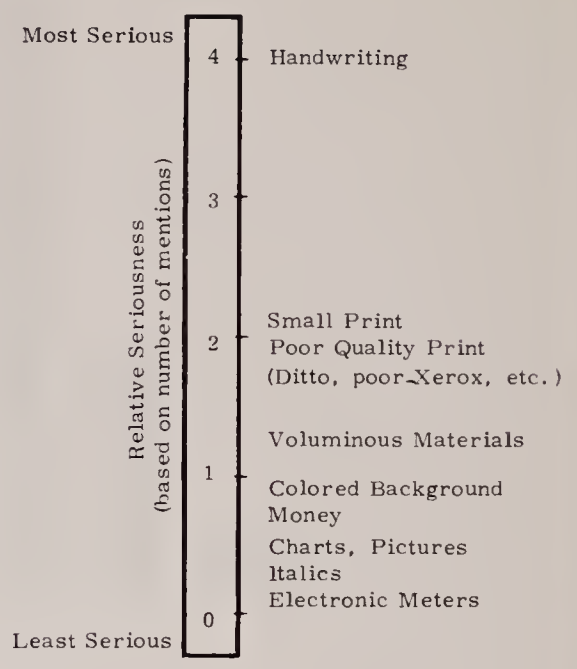
The lawyers interviewed use their Optacons to read the shorter, more concise legal materials, while they reference and classify the longer material which they want read to them. This optimizes both their time and their readers'.

The Optacon enables engineers to read graphs and schematic diagrams, the map-like line representations of electronic and logic circuits. The lettering on electronic parts which identifies them or which indicates their value also can be read in some cases. One engineer now reads classified information which cannot be released to a braillist or to a reader.

Representative examples of some unique applications include reading of foreign languages—particularly Greek and Japanese—reading sheet music, coordinating shirt and tie patterns, interpreting psychological and vocational test charts, identifying paper money, and practicing signature writing.

Figure 5

Reading Requirements for Which the Optacon Is Not Suitable



Limitations

☐ While successful applications for the Optacon are many and varied, the device has limitations; some material is difficult or impossible to recognize. One of the most serious limitations is that the Optacon normally cannot be used for reading handwriting (Figure 5). Nevertheless, some users claim to be able to read "good" handwriting. Inability to read very small print or poor quality print also rank as serious limitations.

About 20 percent of the users cited the low-level buzzing noise from the Optacon as being distracting, particularly to their co-workers. Nevertheless, many of these indicated that, in time, one becomes accustomed to the sound. A few also indicated that the Optacon camera is too large to reach into the narrow margins of some books.

Usefulness of the Device

☐ There is no simple measure of Optacon usefulness to an individual. One of the significant positive indicators of Optacon usefulness, however, is that only six of 107 people interviewed—less than six percent—are not using their Optacon regularly. Among the regular users, average daily usage ranges from 15 minutes to over five hours, with 60 percent of the users averaging one to three hours daily (Figure 6), including practice for speed and proficiency.

Reading speed

Reading speed has been of particular interest in the scientific evaluation of the Optacon, and many potential users wish to know how fast they might read with the device. Yet, almost 80 percent of the users interviewed indicated that reading speed is not of primary importance. Comments such as, "If I read only two words per minute, this would still be better than before I got my Optacon," and, "Even if I could read only a few words per minute, I could still find use for my Optacon," were common. Nevertheless, most users indicated that some minimum speed—perhaps 15 to 20 words per minute—is necessary for the device to be useful; comprehension is said to suffer at very slow reading rates. Reading speed was cited as being of importance primarily by those who must read voluminous material with the Optacon.

Figure 6

Average Daily Usage

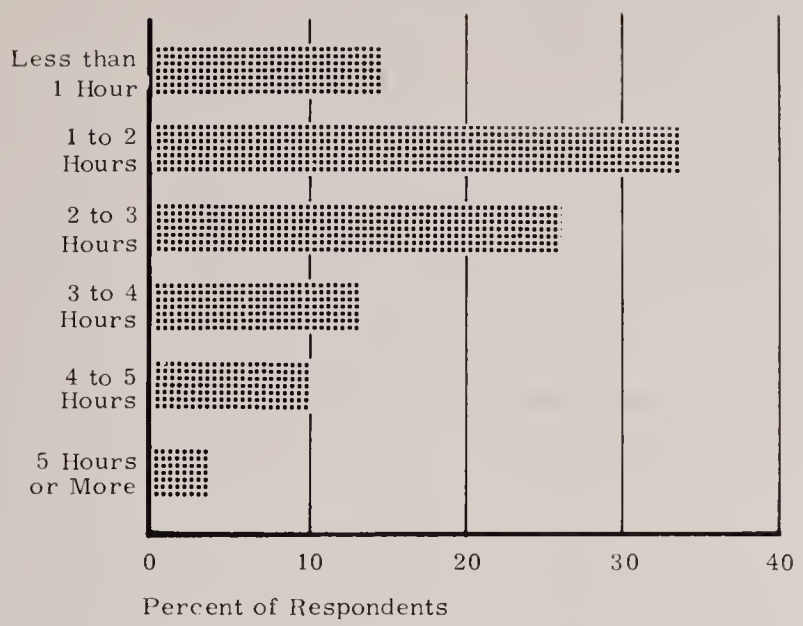


Figure 7

Range of Reading Rates Reported by Users

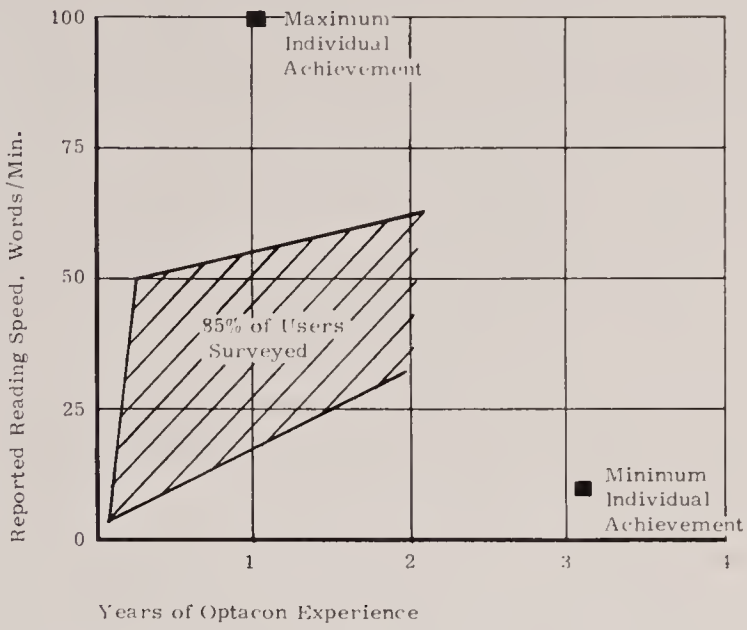


Figure 8

Time After Which Users Felt a Sense of Accomplishment

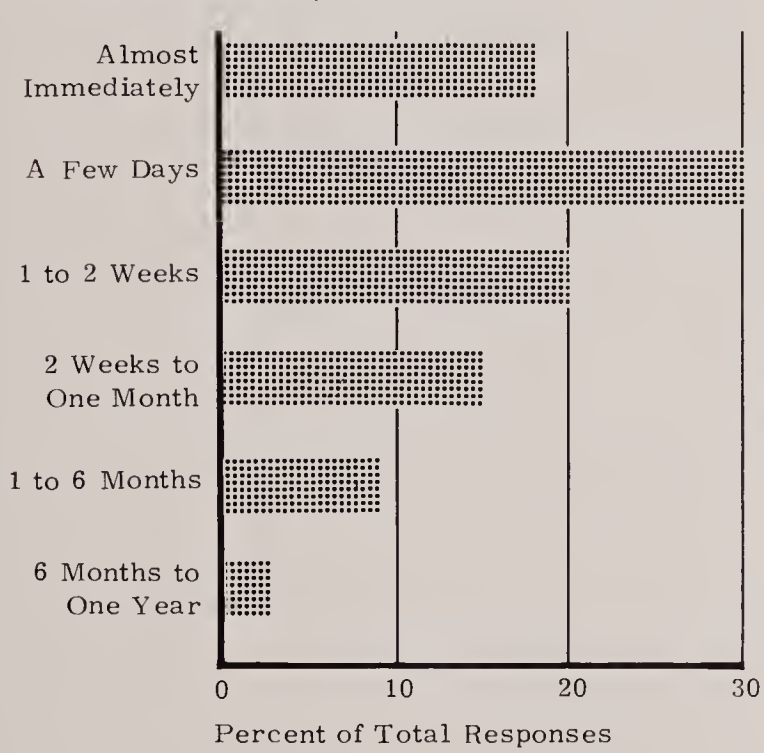
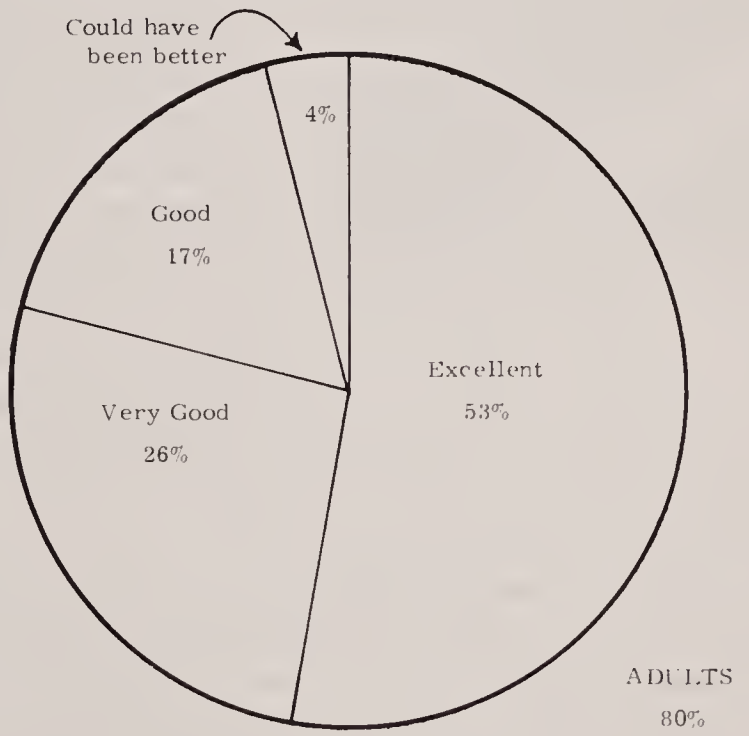


Figure 9

User Impressions of TSI-Conducted Training



Reading rates appear to increase with Optacon experience and with practice. Reading speeds up to 100 words per minute were reported, although indications are that a typical Optacon user, with adequate practice, might expect to achieve a nominal speed of between 30 and 60 words per minute (Figure 7). Actual reading speed varies with quality of print, complexity of content, personal interest, and level of reader fatigue. The Optacon reading rates usually are considerably slower than the braille reading rates of users who read braille regularly—typically about half as fast. Nevertheless, the advantages of the Optacon were said clearly to compensate for the slower reading rate.

30 to 60 wpm average

Advantages

☐ When asked to describe the most significant advantages of the Optacon, over half the users cited "independence," the ability to read without relying on an intermediary such as a braillist or a reader, as the primary value of the Optacon. Accessibility to the printed word was cited next often, followed by "immediacy," the ability to read material when and where desired. Other values of significant importance include ability to read material in privacy and the portability of the Optacon. Because of these advantages, experienced users rank the Optacon as their most important reading mode, the Optacon surpassing braille in importance as users develop reading proficiency. Almost half the Optacon users felt a sense of accomplishment with the Optacon, regardless of their actual skill, even while still undergoing training (Figure 8).

Comments by users

The true utility of the Optacon, however, is highly subjective; it depends most heavily upon the needs and aspirations of the user. The users interviewed by AFB—even those with limited Optacon experience—generally agreed that the Optacon is indeed useful to them. Typical comments were "I couldn't do my present job without the Optacon," "I no longer use braille output [from the computer]," and "I enjoy just being able to read." One of the most descriptive comments was "The Optacon's real value is not so much in providing the ability to read [long works] in print, but for us to perform some of those things that the sighted person takes so for granted that he probably doesn't even realize that he has actually read something."

The Successful User

☐ Because the Optacon presents information tactually, a successful Optacon user must have adequate tactual skills and coordination. Some users believe that good braille readers may learn to use the Optacon somewhat more quickly than poor braille readers or non-readers, and that children and students may learn more easily than adults. Yet many non-readers of braille and some adults over 60 have become successful Optacon users. In the long run, only those with insuffcient sensation or coordination are expected to have difficulty.

Interviews indicate that the factors truly related to long-term success with the Optacon appear to differ little from those related to success with a musical instrument, a sport, a craft, or any other skill. Most interviewees cited motivation, attitude, practice, and patience as the keys to success with the Optacon. In addition, the actual need for the Optacon and the applications for it affect significantly its utility to an individual.

Reliability of the Device

☐ User experience as well as laboratory and field evaluations conducted by an independent testing organization indicate that the Optacon is well designed and manufactured to high standards. Users claim that the Optacon is generally reliable, but that perhaps two failures a year might normally be expected.

While failures have been attributed primarily to defects in manufacturing, many of them result from the relatively rough handling that the Optacon normally undergoes and against which the device probably could not be protected without increased cost or weight. The Optacon is not fragile, but care in handling, particularly in guarding against dropping the unit, is necessary.

Guarantee and servicing

The Optacon is guaranteed against defects in workmanship for a period of one year, and service contracts are available after this period. Users indicate that Telesensory Systems, Inc. (TSI), the manufacturer of the Optacon, has generally provided good service and that the Optacons often are serviced and sent out again in one day's time. TSI has recently established service centers

in New York and Pittsburgh, and hopes to establish more centers in the future. Service in other areas currently is obtained by returning the Optacon to the TSI factory in California by air parcel post.

Training

☐ Reading with the Optacon, like reading braille or even print, is a skill which must be developed through training and practice. While about ten percent of the users interviewed taught themselves to use the Optacon or learned from other users, a formal Optacon training program is normally undertaken by users and is the recommended learning procedure. User experience indicates that inadequate or improper training can be detrimental to success.

50 hours

The formal Optacon training program normally encompasses about 50 hours of instruction. Current training programs range from intensive two-week, five-hour-per-day courses to those in which training is spread over several months. The training courses teach Optacon technique and attempt to develop at least a basic reading proficiency. Reading speed and comprehension must then be built through regular practice. TSI has developed complete curricula both for Optacon users and for Optacon teachers.

Training centers

Optacon training centers have been established at approximately 15 blind service agencies in the United States as of mid-1973, with five centers in Canada and Europe. Most of the Optacon teachers at these agencies were trained by TSI, but the training programs are operated by the agencies themselves. TSI conducts its own two-week intensive courses at the company's facility in Palo Alto, California, where it also offers the teacher training courses. Additional training centers are being established in agencies, and at least two colleges are now offering the Optacon teacher training course as part of their degree programs for teachers and rehabilitation personnel serving the blind.

The cost of the user training courses varies with the center, and ranges from about $300 to $600 exclusive of room and board during the program. Some local programs provide training to participants at little or no cost.



TSI training

Almost 50 percent of AFB's interviewees were trained by TSI, since agency training programs began only recently. Over 95 percent of those trained at TSI rated the TSI training highly (Figure 9). They characterize it as a highly individualized and extremely intensive ten days of training. The quality of training at agency centers is generally regarded as good to excellent, although the training at some centers is less individualized than at others.

The Manufacturer

☐ Telesensory Systems is a well-established and financially-stable business, and it now has over 40 employees. TSI is highly regarded by most Optacon users and has developed a reputation for integrity and commitment to its customers. TSI's establishment as a profit-making organization has enabled the firm to attract the funding necessary to bring the Optacon to market and to provide the type of support necessary for its commercial success.

Potential market

Having firmly established the Optacon as a product, TSI now has begun developing Optacon accessories and exploring new product opportunities to insure the continued success of the company. AFB estimates that perhaps 10,000 people in the United States and Canada and at least an equal number in other countries might be potential users of the Optacon. This existing potential, growing by about 500 each year, should provide a stable base upon which TSI can build.

Some users have commented that the price of the Optacon, now $3450, is

too high. While the price is substantial, it appears reasonable in view of the cost of manufacturing in relatively small lot sizes, plus the cost of proper engineering, support, service, and marketing, TSI already has passed on savings realized from efficiencies in manufacturing and design as well as from increased production by reducing the price from the original $4950.

Other Devices

☐ The Optacon should not be considered as a substitute for braille, recordings, or readers. Rather, it is complementary to them. These other reading techniques are usually faster and easier to use; however, where they are unavailable or impractical, the Optacon is an invaluable tool.

Some individuals wish to compare the Optacon with other devices, particularly the Stereotoner which converts printed images into audible tones, to determine which is the best device. These cannot be compared directly. Interviews with persons who have used both devices indicate that each must be considered in light of the user's requirements, capabilities, and budget.

Obtaining an Optacon

☐ Persons interested in purchasing an Optacon are urged to see one in use and, if appropriate, to investigate other reading devices before making a decision. TSI, and most training centers, will evaluate an individual's tactual and mechanical capabilities for using an Optacon free of charge. Evaluations are objective; those for whom the Optacon is obviously not suited are advised accordingly. Potential Optacon users and organizations supporting Optacon dissemination programs are urged to consider carefully not only the ability of a potential user but also his motivation and needs before investing in the Optacon purchase and training.

Personal funds, including bank loans, and funds from parents and relatives have been used to purchase Optacons for over half the users who own their Optacons outright. Other sources include employers and private foundations. In some local areas, private foundations are underwriting Optacon funding.

Governmental funding

State agencies and the Veterans Administration have provided some Optacons, and interviews with state agencies indicate that their acceptance of the Optacon is increasing rapidly. Nevertheless, agency budget limitations appear to preclude widespread dissemination of Optacons without federal or private assistance, and some agencies still appear to be reluctant to invest in the Optacon because of its high cost.

A fund to provide low interest loans for Optacon purchases, the Optacon Fund Inc., Menlo Park, California, has recently been established; some religious and fraternal organizations have provided grants or loans for Optacons.

Conclusion

☐ The AFB survey and evaluations performed by others indicate that for an individual with sufficient motivation and adequate physical capabilities, the Optacon is a very useful device, reliable and well-designed, priced fairly, manufactured and supported by a reputable organization, and backed by efficient service and an effective training program. The AFB believes that a potential user or agency can purchase an Optacon in complete confidence.

Notes

1. Information about the Optacon, Optacon dissemination programs, training centers, and user references can be obtained from Telesensory Systems, Inc., 2626 Hanover Street, Palo Alto, California 94304, or by telephone at (415) 493-2626.

2. The AFB Sensory Aids Development Program would be pleased to answer questions from individuals or organizations about this report or about the Optacon.

Assessing the Readiness of Blind Persons for Vocational Placement

ABSTRACT: The relationship of work to the needs—especially psychological—of clients is explored. It is concluded that full evaluation and testing of the individual should be used to develop a specific rehabilitation program for him. Such a program might include intensive training and counseling, as in the case of most congenitally blind high school graduates, preparatory to placement or placement early in the program where the role played by work itself is an important part of the person's rehabilitation. The problem of individuals with unrealistic vocational goals is also discussed.

EDOUARD L. WILSON

Mr. Wilson, formerly administrator of Psychology, Counseling, and Placement Services, New York Association for the Blind, is now chief, Psychology Section, Center for Chronic Disease, New York Medical College, New York City.

The Return to Work

In order to assess a client's readiness to enter or re-enter the world of work, many factors need to be considered. First, his readiness will be affected not only by his level of motivation but by factors such as the labor market, transportation, mobility, physical and emotional adequacy, intelligence, aptitude, skill acquisition, and job availability. In addition, the needs of the client will be conditioned by sociological factors such as ethnic background, social and economic class, family involvement, and education. Readiness also implies willingness, need, action, understanding, and drive. All of these factors must be considered before a client begins looking for a job.

☐ It must be realized that during the rehabilitation process a decision has to be made as to whether an adventitiously blinded person is able to return to his previous job. If not, can he be taught new skills for a more realistic and suitable job? If a job is not indicated, can he take up a remunerative hobby which he could do at home? In each case, the emphasis should be upon self-help and productive work, as well as financial considerations. Self-help assists the rehabilitant in maintaining self-respect, while affording him an outlet for the creative drive which is inherent in all people—whether it is utilized or not. Naturally, the amount of creative drive will be conditioned by the person's natural abilities and aptitudes.

Importance of work

The fact that a person who derives pleasure from working with his hands gains as much satisfaction from remunerative employment as the person who uses his mind, should not be overlooked in assessing a client's readiness for employment. If the rehabilitation team members suggest that the person aim for a higher-level job (meaning mental rather than manual work), they are implying that blind persons should not do work using their hands. The following important premises must be understood and put into practice. First, self-help gives the person self-respect, higher self-esteem, integrity, and backbone. Second, productive work, regardless of whether it is sheltered, clerical, unskilled, skilled, technical, or professional, is more pleasurable for most

This article is based on a paper originally presented at the American Association of Workers for the Blind, Mid-Atlantic Region Meeting, Washington, D.C., November 2, 1972.

people than enforced idleness. Third, blindness does not go to work but the person does.

Readiness Criteria

☐ Since it is the person that goes to work, Vieceli (1972, pp. 292–293) gives a list of criteria for determining readiness which I would like to quote:

1. Physical readiness.
   a) Is the client at his maximum level of physical capacity?
   b) Can the client travel to and from a job?
   c) Can the client meet the physical demands of the kind of work sought?
2. Psychological readiness.
   a) Do the client and his family accept his limitations?
   b) Do the client and his family recognize his capabilities?
   c) Is the client sincerely motivated toward employment?
   d) Can he adjust to the stress and pressure of a work environment?
3. Occupational readiness.
   a) Are the client's aptitudes, skills, knowledge, and experience commensurate with job requirements, current and future?
   b) Is the client really interested in the job under consideration?
   c) Are the job's non-monetary, psychological rewards in keeping with client's needs, values, and long range goals?
   d) Is the client aware of opportunities and requirements for entrance into this field?
   e) Has the client's preparation been flexible enough for reassignment to other jobs or tasks?
4. Placement readiness.
   a) To what extent can the client participate in the job-finding process?
   b) Does the client know sources of job leads?
   c) Can he develop a personal information packet?
   d) Can he satisfactorily complete an application?
   e) Can he present himself adequately in a job interview?

Determining Readiness

☐ Caution must be exercised so that this approach to understanding readiness not become a checklist by which the readiness determination is made. Job readiness is not a simple process, but a highly complex and varied one which is conditioned by a multiplicity of factors, some of which are related to the personality needs and functioning of the client. One factor which is so often overlooked or is not operative in the client-placement counselor relationship is listening with the third ear or tuning into what the client is saying. Such traits as dependency, hyperactivity, moodiness, insensitivity, hysteria, and so on may be evident in the personality, thus counterindicating placement in most competitive employment, but not for sheltered employment. True, appropriate sheltered facilities must be found; such shops for blind persons should include adequately trained staff who can instruct, train, and supervise those blind persons who have personality problems but who are ready in every other way for this type of job placement.

Placement before closure

During the rehabilitation process, a blind client may be able to become prepared to function in a work setting before he completes the training program. For example, a man who has experience as a maintenance man may find that his depression and anxiety have lessened to the point that he no

longer is fearful of using his hands or of working around machinery. At the same time, however, he may not have completed instruction in braille and mobility. Because of his needs and interests, it may be very important for this man to return to work as soon as possible. He essentially is ready for re-entry into employment even though he has not completed the total rehabilitation process. Many rehabilitation team members would disagree with this concept of readiness, for they would reason that until the client has completed all of his training, he should not be referred for a job. What is essential in understanding readiness in such a case is the meaning of work to the individual client.

Work and self-concept

Work to some clients is tangible evidence of self-worth. Most clients who enter rehabilitation, from the most sophisticated to the most naive, feel that they have come to the rehabilitation centre to be referred to a "job." Even the early national legislation emphasized "vocational rehabilitation." This difficulty arises on the part of the client as well as staff members because there is confusion about what rehabilitation consists of. To me, there is vocational rehabilitation, social and emotional rehabilitation, cultural rehabilitation, physical rehabilitation, and academic rehabilitation. Once the blind person has learned to travel independently, is able to sustain the pressures and demands of work, even though some of the academic and social needs have not been met, and possesses a "work personality" where full integration of the personality comes through work, then his heightened desire to return to work in the middle of his rehabilitation should be considered readiness for work. The therapeutic gains made by such a person through work are sometimes phenomenal. Psychotherapy, casework, and counseling in this instance take second place.

"Abstract Personality"-Types

☐ For the academically oriented person or "abstract personality"-type, readiness for employment more nearly coincides with completion, integration, and high-level functioning in mobility and in intellectual, emotional, social, and academic areas. The readiness is not so much determined by the rehabilitation team but by the client acting in concert with his university, major professors, and counselors.

An example

Some clients who graduate from college or who attend graduate school, but who have not reached a high level of integrative functioning, may not be ready for employment on a professional level but could, with additional lower level or technical training, become ready for work. A case in point is a young woman in her mid-twenties, very superior in intelligence, from an upper-middle class, suburban background (father, mother, and sister are Ph.D.'s), and a graduate of Swarthmore. When seen for a psychodiagnostic evaluation to determine her potential for graduate school, she scored high on the graduate evaluation but very low on emotional adequacy and work readiness. She was petrified to even think of work. Her state counselor, nevertheless, followed her suggestion that she attend Georgetown University to study for a master's degree in Romance languages. After a year, she dropped out. Again psychodiagnostic testing re-emphasized individual therapy and the need for job success. She initiated individual therapy and lowered her goal by entering

Lowering goals

transcription typing training. Team members were astonished. She zipped through training and was the eighth or ninth applicant to be referred to a large, posh metropolitan hospital to work with doctors—many of whom were foreign-born. She got the job because she was the only referred transcriptionist who could understand their accented English. Once hired, her appearance, demeanor, and self-image changed. She felt needed and said so. She is still employed because her readiness need was finally met on a realistic and positive level.

Congenitally Blind Students

☐ Congenitally blind students who leave an ungraded high school program, a high school diploma curriculum, or a terminal program due to age, whether from public high schools or residential schools for the blind, constitute a major problem as entry applicants into the labor market. Skill potential, in most cases, is at a prevocational or unmeasureable level. Self-help skills are, in many cases, nonexistent. Work needs and awareness are pitifully vague, while fantasized vocational aspirations are grandiose and unreachable. The "blind occupations," which I see no need to name, have been programmed into their minds and spill out in counseling sessions with split-second rapidity. They appear to have been computerized; therefore, in their machine-like innocence, they talk about what they want to do. Counselors respond with despair about their "unrealistic vocational goals," goals which are, in essence, fantasies that constitute the only type of abstract reality they have ever experienced. Isn't it easier for all of us to talk about what we can do, than to do it? Are they so different then? Can we take away their fantasies and have them face reality? These are questions I ask.

Unprepared for work

Many of these students are whizzes in typing and braille and a great number also play the piano well, especially if schooling has been in a residential setting. Even so, many rehabilitation counselors will conclude, "They will never be able to work." The work diagnosis is made without the consideration of providing a prescription for treatment. Work for these students, if it is to be accurately diagnosed, has to be seen as treatment, i.e., providing concrete experiences to replace their abstract reality. The prescription should be a work-evaluation which, in turn, should be followed by a period of concrete work-experiences in a work-activity setting. All mankind learns to work through experience. Chores which a child performs at home give him a work-experience. Can we determine the readiness of a youngster to become a newspaper delivery boy or a baby sitter? Isn't age a real factor? If old enough, anyone can legally work, provided they are not handicapped or blind; and I don't need to go into the pros and cons of the last statement. To use readiness as a criteria for employment with this population is to deny them the right to pass or fail, to learn about the world of work. and, most of all, to experience the feel of what it means to work, blindness not withstanding.

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A Retrospective Study of Retrolental Fibroplasia

JOAN B. CHASE, Ed.D.

Dr. Chase is associate professor, Department of Psychiatry, College of Medicine and Dentistry of New Jersey, Rutgers Medical School, Piscataway, New Jersey.

ABSTRACT: The relationship between retrolental fibroplasia (RLF) and severe affect disturbances (often simulating autism) was investigated through the collection and analysis of data concerning 263 subjects born between 1939 and 1959 and blinded by RLF. The variables examined included prematurity (birth weight and length of gestation), duration and intensity of oxygenation, environmental conditions (sensory and maternal deprivation), the administration of medical agents, and characteristics of the parents (socio-economic status, intellectual level, emotional reactivity, and religious/ethnic lineage). Autistic symptomatology was found to be correlated with high birth weight (rather than low, as expected), long gestation (but also extreme prematurity), and parental intellectuality, but not with the other variables. Supplementary findings revealed that the extent of autistic symptomatology was correlated with the results of neurological examinations and the date of birth. These results are discussed and a multifactor theory of etiology is suggested.

Many of us remember our sense of relief when we learned that the etiological agent of retrolental fibroplasia (RLF) had been isolated. During an approximate 25-year span prior to that discovery, we had witnessed near-epidemic incidence of RLF, causing blindness or visual disorders in infants born prematurely. The finding that high oxygen levels during incubation were responsible for the alarming incidence resulted in legal controls and efforts at prevention.

The Conquest of RLF

☐ A number of variables associated with premature birth and treatment had been studied before high oxygen tension was definitively indicated as the responsible factor (Terry, 1948; Kinsey & Zacharias, 1949; Campbell, 1951; Zacharias, 1952; Kinsey & Hemphill, 1955; Patz, 1955). Moreover, contrary to fears, the mortality rate remained stable in spite of atmospheric composition (Kinsey & Hemphill, 1955; Farrell, 1956; Patz, 1957). By 1956, sufficient controls on oxygen administration had been instituted that the disease's incidence declined precipitously (Schlesinger & McCaffrey, 1953; Yankauer, Jacobziner, & Schneider, 1956; Lowenfeld, 1963). Because of the gap between technological advances in incubation (permitting many infants to be saved in highly controlled atmospheres) and the medical research findings regarding RLF, thousands of children across the country were handicapped visually (National Society for the Prevention of Blindness, 1966).

Developmental delays

The development of young blind children has been of great interest to all those who work with the visually impaired. Over the years, authors have

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debated the extent to which lack of vision (in varying degrees) impairs intellectual and emotional growth. During the peak years of RLF incidence, studies were undertaken to assess the development of these children (Gesell, 1953; Krause, 1955; Norris, Spaulding, & Brodie, 1957; Keeler, 1958; Parmalee, Fiske, & Wright, 1959). Findings included developmental delay associated with prematurity, a high incidence of multiple disabilities, and tendencies toward behavior disorders including autistic symptoms. High levels of mannerisms, or "blindisms," were also noted.

Special attention merited

Those professionals who were working with blind children at the time noticed differences between the RLF population and other etiology groups. A colleague, who had returned to the field in the late 1950's after a number of years absence, remarked that the children she was teaching were "a different breed" than those whom she had previously instructed. The tendency toward emotional disorders and severe learning problems was apparent to many, although it was agreed that not all RLF children demonstrated these additional difficulties. The generalization emerged, however, that these children's development merited special attention.

Symptoms of Autism

☐ Symptoms of autism were widely noted in the RLF population. Early infantile autism is a severe emotional disorder of childhood first described by Kanner (1943) and diagnosed by the following characteristics: early onset, extreme withdrawal, lack of affect, stereotyped mannerisms, obsessive desire for the preservation of sameness, dramatic variations in cognitive behaviors with extraordinary rote or form memory, fascination with objects, little or no relationships with people, inconsistent motor skills and language impairments ranging from extreme echolalia to mutism (Kanner, 1943, 1949, 1954; Rimland, 1964). Controversy surrounds the etiology of this syndrome (Kanner, 1964; Rimland, 1964; Schopler & Hill, 1965; Bettleheim, 1967). Some authors posit a psychogenic theory, citing striking parental features (e.g., Bettleheim); others look to biochemical and other physiological causations (e.g., Rimland).

A Retrospective Study

☐ A review of the literature suggested some relationship between RLF and severe affect disturbances (often simulating autism). Threfore, a retrospective study of an RLF sample was designed to examine those variables which may have contributed to differences between the RLF subjects who demonstrated such autistic symptoms and those who did not. Several groups of variables were examined which might shed light on etiological and developmental differences in the RLF population.

Prematurity

The first group of variables chosen for investigation were those related to the condition of prematurity. Birth weight and length of gestation, found to be prime factors in the subsequent growth and general development of all children born prematurely, are, in medical studies, strongly related to neurological sequelae (Benton, 1940; Knoblock, et al., 1956; Lubchenko, et al., 1963; DeHirsch, Jansky, & Lanford, 1965). Duration and intensity of oxygen administration might also be considered contributory to neurological functioning in view of the intimate connection between anoxia or hyperoxia and nerve-cell functioning (Holt, 1954; Lanman, 1958, Birch, 1964).

Environmental conditions

Two of the variables examined concerned early environmental conditions. Situations of deprivation had been studied (Spitz, 1945; Bowlby, 1951; Harlow, 1958; Lebovici, 1962; Hebb, 1949; Schultz, 1965) and similarities were noted between behaviors associated with autism and those consequent to such deprivation (Provence & Lipton, 1962; Davenport & Menzell, 1963; Mitchell, et al., 1966). Incubation over an extended period of time could be thought of as a sensory-restricted setting, and relationships stemming from this lack of early environmental stimulation were evaluated. The prolonged separation from maternal contact during postnatal hospitalization (maternal deprivation) was also studied.

Medication

An additional physiological factor, that of administration of medical agents, was explored. During the period of research on RLF etiology, studies of several medications were made (Reese & Payne, 1946; Terry, 1948; King, 1951; Zacharias, 1952) and specialized medical practices were often necessitated by conditions of prematurity (Dunham, 1955; Lanman, 1957; Zacharias, 1964). Administration of medical agents added other unique dimensions in the lives of these infants.

Family variables

Family and sociological variables comprised another area investigated. Behavioral scientists had often ascribed the development of emotional disorders, particularly autism, to family status and relationship patterns (Kanner, 1949; Despert, 1951; Eisenberg, 1957; Bettleheim, 1959, 1967). Parental socio-economic status, intellectual level, estimated emotional reactivity and religious/ethnic lineage were studied in keeping with Kanner's original observations (and those of subsequent investigators) regarding such family variables (Kanner, 1943, 1949, 1954; Kanner & Lesser, 1958; Kanner, 1964; Rimland, 1964; Wing, O'Connor, & Lotter, 1967).

The problem, specifically stated, was to ascertain which of the variables under study (birth weight, length of gestation, duration of oxygenation, duration of incubation, duration of hospitalization, administration of medication, parental socio-economic status, parental intellectual level, parental emotional reactivity, parental religious/ethnic lineage) correlated significantly with subsequent affective development.

Procedures

☐ Two hundred and sixty-three subjects were secured from the rolls of the New Jersey Commission for the Blind. All were born between January 1, 1939, and December 31, 1959, and blinded by RLF (visual defect sufficiently severe as to require braille as the reading medium; most are totally blind).

Interviews were conducted with the parent or child care agent in all cases. The measures included a questionnaire which asked family data, (occupation, etc.), early data (birth weight, length of gestation, incubation, hospitalization, oxygenation, etc.), observed symptoms (including "blindisms"), and other pertinent questions. The second protocol was the Diagnostic Checklist E-2 developed by Rimland (1964). Parents were asked to complete both forms, remembering back to early factors and behaviors. (An admitted weakness of the study is the retrospective nature of the data. Some parents had baby books, etc., which were helpful; others were hard pressed to remember.)

Information from professionals

Additional data was collected from professionals engaged in work with the

Placement	*Number*	*Percent*
Group A	129	49
Employed	7	2.7
Attending college or graduate school	10	3.8
Attending rehabilitation training program	4	1.5
Attending regular public, private, or parochial day school program	72	27.4
Attending regular residential school program for the blind	36	13.7
Group B	134	51
Attending sheltered workshop for special job training	7	2.7
Attending special public, private, or parochial day school program	21	8.0
Attending special residential school program for the multiply handicapped	56	21.2
At home	13	4.9
Placed in state or private custodial institutions	37	14.1

TABLE 1
Distribution of Subjects by Present Placement (Functional Level)

subjects at the time of the study. New Jersey Commission for the Blind education counselors or analogous personnel completed the "Counselor's Checklist," which provided information about the family (socio-economic status, religion, intellectual level, etc.) as well as observations of the child's behavior with regard to the areas of autistic affect. Further data were gleaned from the New Jersey Commission for the Blind's files on each subject. For a subgroup who had undergone extended diagnostic evaluation at the Center for Blind Children in Boston, more intensive background data were recorded.

Data Analysis

☐ Analysis of the data included preliminary evaluation of the measures for validity and reliability. Intercorrelations and internal consistency studies revealed significant levels of congruence of checklist data where appropriate. Noteworthy support for the measures of autistic symptomatology, including parental and professional ratings, was found.

Sample distributions proved revealing of RLF trends. For example, when the 263 subjects were classified according to placement at the time of the study (Table 1), an almost perfect dichotomy was formed between those who were able to function at a level expected for their age (Group A) and those who were not (Group B). Further, the wave of RLF incidence can be clearly seen when the distribution by year of birth is reviewed (Table 2). Parental participation was excellent, as witnessed by the fact that for the 263 subjects, 246 parents (93.5 percent) were alive and available for participation (224 residents of New Jersey; 19 out-of-state—St. Joseph's; three out-of-state—Matheny). Twelve subjects (4.5 percent) were orphaned or abandoned; in four cases (1.6 percent), the parent was unavailable or not located; in only one case (0.4 percent) did the parent refuse to cooperate.

Rimland's checklist

The distribution of the sample according to scores on Rimland's checklist yielded another noteworthy finding. None of the subject's scores fell in the certain "autism" range as defined by Rimland. Four RLF subjects fell in the "uncertain" category by that definition. Therefore, when this strict diagnostic criterion is used, that subgroup of RLF subjects with behavioral disorders would be considered "autistic-like" or tending toward such symptoms, rather than clearly autistic. The Counselor's Checklist scores offered another gradient, and only one subject fell at the most severe level ("autistic") on that scale.

TABLE 2
Distribution of Subjects According to Year of Birth

Year of Birth	Group A		Group B		Total	
	Number	Percent	Number	Percent	Number	Percent
1939–41	1	0.4	0	0.0	1	0.4
1942	1	0.4	1	0.4	2	0.8
1943	0	0.0	2	0.8	2	0.8
1944	4	1.6	4	1.6	8	3.0
1945	3	1.1	2	0.8	5	1.9
1946	7	2.7	1	0.4	8	3.0
1947	9	3.4	7	2.7	16	6.1
1948	8	3.0	7	2.7	15	5.6
1949	4	1.6	4	1.6	8	3.0
1950	12	4.5	13	4.9	25	9.5
1951	21	8.0	12	4.5	33	12.5
1952	19	7.2	24	9.1	43	16.3
1953	15	5.6	17	6.4	33	12.5
1954	12	4.4	15	5.6	27	10.3
1955	4	1.6	8	3.0	12	4.5
1956	4	1.6	5	1.9	9	3.4
1957	2	0.8	4	1.6	6	2.2
1958	3	1.1	6	2.2	9	3.4
1959	0	0.0	2	0.8	2	0.8
Totals	129	49.0	134	51.0	263	100.0

Major data analyses, testing for significant interrelationships between independent (birth weight, gestation, incubation, etc.) and dependent (autistic tendencies) variables was undertaken using correlation coefficient techniques. Other statistical procedures were undertaken for non-gradient variables (e.g., neurological findings).

Results

☐ The hypothesized relationship between early physiological variables and autistic symptomatology in RLF subjects was only partially supported. (Statistical data for these variables are found in Tables 34–38 of *Retrolental Fibroplasia and Autistic Symptomatology*.) The first and most surprising finding involved birth weight. The relationship between this variable and Checklist E-2 scores was found to be small and not statistically significant. Although the direction of the correlation would support the hypotheses of low birth weight as related to high autistic symptom level for the total Rimland score, this finding was not upheld when the gradient of symptoms alone (partial Rimland scoring) was used. Further, and of greater interest, was the finding that the Counselor Checklist Average Ratings of autistic symptoms correlated significantly in the opposite direction than that expected. In other words, the heavier the birth weight, the greater the number of symptoms. In the light of the literature review, and the underlying construct of physiological (specifically, neurological) vulnerability, this finding was unforeseen.

Birth weight

Intensive investigation was conducted into the constituents of this finding. It was discovered that a small (N = 19) subgroup of the subjects fell into the weight group above 60 ounces. Of these, two were rated as "1" by the counselor (the lowest symptom level); five at "6"; three at "7"; and one at "9" (the highest possible score, implying extensive symptomatology). This group included all the subjects who had not been born prematurely and who therefore, were neither incubated nor oxygenated. (Medical notation of a group

of non-premature, non-incubated patients with RLF-disease characteristics had appeared in the literature.) Conversely, the group with the lowest birth weight tended to cluster at the lower score levels. As birth weight had previously been established as the most valid and reliable measure, the findings could not be attributed to measurement limitations.

"Two-factor" theory

Speculative explanations of this unusual finding included a "two-factor" theory, whereby that factor which produced the high level of autistic symptoms was distinct from that which produced RLF in the low-weight prematures (medically established as oxygen). Some unknown vulnerability would therefore by shared by the upper weight group and the higher symptom-level group. Such suggestion of a specific vulnerability supports Rimland's (1964) theories regarding the nature of autism. Further detailed investigation into this finding is indicated.

Duration of gestation

The only significant finding relating autistic symptomatology to duration of gestation is based on the Counselor Checklist. This relationship reflects the same nonpremature subjects as did that for birth weight, as well as the same directionality. (Birth weight had previously been determined as the variable of greater contribution by partial correlation analysis.) The long term pregnancies appear to have produced those subjects more susceptible to autistic symptoms.

Other measures suggest some gradient relationship between extreme prematurity and behavior disorders, and do so in the expected direction (shorter gestation as related to symptoms). Although autistic behavior is one of the levels on the continuum, other disorders, such as mental retardation, are included as well. The significant correlation may reflect the findings, in other studies, of the relationships between short gestation and a host of handicapping conditions.

Duration of Oxygenation

☐ The third aspect focused upon duration of oxygenation. None of the major measures of autistic symptomatology was found to be significantly related to this variable, although the Boston Diagnostic Rating showed a correlation significant at the $p = .01$ level. This finding is based on a small number, as most families were not apprised of the levels of oxygen administered. Correlations demonstrate directionality which yields findings opposite to those anticipated (the shorter the duration of oxygenation, the greater the autistic symptomatology). Therefore, Glavin's (1966) speculations which indict oxygen tolerance and rapid changes in atmospheric levels, rather than high concentrations alone, find some support here. Rimland (1964), too, discusses variations in tolerance for and vulnerability to oxygen concentrations.

Sensory/maternal deprivation

Virtually no support is offered by the findings for a sensory/maternal deprivation hypotheses. All correlations for the variables of incubation and hospitalization were extremely low, except for that between the Boston report of incubation (secured from birth records) and the diagnosis made at Boston. The parent report of hospitalization was also found to correlate significantly with diagnosis of autism at Boston. Here, once again, the relationship reflects an inverse direction to that hypothesized; the shorter the incubation and/or hospitalization, the higher the autistic symptom findings. As the hypotheses

of early stimulus deprivation is dependent upon separation from maternal handling, the original speculation for this variable is rendered inappropriate. The factor or factors which might underlie the contrary direction of the findings for neonatal variables (e.g., vulnerability, oxygen factors, multiple susceptibilities) would also be supposed to exert influence upon this variable.

Medication

Findings regarding the administration of medication were not significant. The measurement for the variables involved, e.g., blood transfusions and ACTH therapy, was of questionable validity and accuracy. It is therefore not possible to determine whether the findings truly imply a lack of relationship between the medical procedures and symptoms of autism, or whether the measurement of the administration of medication prevented adequate testing of the hypotheses.

Family Characteristics

☐ The hypotheses concerned with family characteristics were partially supported in only one aspect. (Statistical data for these variables are found in Tables 41–43 of *Retrolental Fibroplasia and Autistic Symptomatology.*) In contrast with a large body of literature on autism (Kanner, 1943, 1949; Rimland, 1964), no significant relationships were found between autistic symptomatology and socio-economic status in this study. It is unlikely that measurement weaknesses were responsible for the absence of significant findings, as there were several measures used for this variable, and strong evidence of validity was gathered.

Socio-economic level

Although the coefficients for socio-economic levels did not support previous authors' findings, several of those for parental intellectuality did. New Jersey Commission for the Blind ratings correlated significantly with Checklist E-2 scores. In addition, both the psychologist's behavior diagnosis and that from the Boston Center correlated significantly with the mothers' and fathers' highest educational level. These correlations reflect the anticipated directionality. Therefore, the findings suggest a tendency for the more autistic subjects to have more highly intellectual parents. The measures for this variable are considered sufficiently valid as to lend credence to these modest findings. The observation of parental intellectuality and educational attainment has been made in most studies of autism (reviewed by Rimland, 1964; also, Wing, O'Connor, & Lotter, 1967).

Emotional reactivity

Although none of the findings regarding parental emotional reactivity was significant, the measures of this dimension had previously been demonstrated to have sufficiently poor validity as to question the value of the resulting tests of significance. For this variable, the nonsignificant findings may be due to a true lack of hypothesized relationship, or they may be due to poor measurement. It is, therefore, suggested that the psychogenic construct of "cold" parental handling as causative of autistic behavior in children (Kanner, 1943, 1949, 1954; Eisenberg, 1957; Bettleheim, 1967; among others) was not adequately tested in this investigation.

Results of correlations between religious/ethnic group differences and autistic symptomatology were not significant. These findings are not consistent with the reports of high incidence of autism among certain ethnic groups.

Supplementary Findings

☐ Perhaps the most convincing outcome of the study appears in supplementary

findings. Significant relationships were found between the results of neurological examinations and the extent of autistic symptomatology. All but one of the co-efficients were found to be significant, three at the $p = .01$ level, and two at the $p = .05$ level. As no validity data could be provided, it is difficult to determine the influence of measurement factors upon these findings. It is speculated, however, that problems of differential diagnosis contaminated these results. It is noteworthy that on instruments of greatest sophistication in the measurement of autistic symptomatology (namely, Rimland scores and Boston diagnoses) less significant (or not significant) findings were ascertained. For both the Counselor Checklist and Average Blindness scores, crude measurements may not have adequately differentiated between truly autistic subjects and those with general developmental problems. An additional confounding element is that neurologists may employ symptoms of autism as contributors to an overall diagnosis. Thus, the suggestion of a relationship between autistic symptomatology and neurological impairment must be accepted advisedly; nonetheless, the findings offer evidence of this association. Such evidence offers support for the biogenic school of thought regarding autism (Rimland, 1964; Glavin, 1966; Meyer, 1967).

Provision of services

Additional findings, secured through follow-up data in the files, reveal interesting relationships concerning RLF. The significant correlations between date of birth and both the Early Social Development Ratings and Present Functional Level suggest that more developmental problems were encountered in the lives of those individuals born at the beginning of the RLF wave, and that they were less likely to have achieved relative independence. As the S.Q. and I.Q. scores do not correlate significantly with age, the previous finding may also reflect improvement in professional provisions within the past decades (particularly in pre-school and vocational training). A significantly greater number of boys than girls had developmental problems; this is not an uncommon finding in the field of the handicapped.

Discussion

☐ Several themes emerge from this retrospective study of the RLF population. Of particular importance to those who work with blind children and their families is the observation that considerable information about RLF children was available during their childhood years. Physiological concomitants of prematurity were diagnosed, and greater attention might have been paid to the multiplicity of disorders. It would seem imperative, with the growing numbers of multiply handicapped children now registered with all specialized agencies, to assemble greater behavioral data which might assist in planning. Retrospective studies leave a researcher feeling somewhat helpless about what "has been"; it is hoped that these findings might point toward future change. For example, in situations where neurological and other complicating disorders existed with RLF, programs designed for children with those handicaps have not been widely tapped. The results of this study indicate a need to look at behavior in its totality rather than focusing upon blindness.

Multifactor theory of etiology

The findings suggest a multifactor theory of etiology for the disordered behaviors simulating autism in the RLF population. The group which was neither incubated nor oxygenated, but which demonstrated high levels of symp-

tomatology, is of particular interest to current practitioners. It would be anticipated that such cases of RLF would continue to occur to the present day. Furthermore, recent notations in ophthalmologic literature suggest an increase of RLF associated with prematurity. It is important, therefore, that we learn from past experience and provide for early identification of behavioral symptoms. Specific approaches, including controlled behavioral training, may be indicated for those identified RLF patients now seen.

Although no one etiological factor for autistic symptoms was identified in this research study, the evidence suggests physiological (biogenic) influence. Parental factors, although relevent to some degree, must be viewed as only one element of the total picture in the development of blind children. It is hoped that professional workers will demonstrate increased sophistication and sensitivity in counselling parents, based upon such evidence.

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Workshop in Rapid Reading in Braille

Culver-Stockton College is offering a second Workshop in Rapid Reading in Braille, August 5-16, 1974, to be conducted by Vearl G. McBride, Ph.D., professor of education at the college and author of an article on rapid reading that appeared in the January 1974 issue of the *New Outlook*. Dr. McBride has also announced that he would be available, at certain times in the summer of 1974, to conduct additional workshops in areas where there are a sufficient number of interested individuals. For further information about the scheduled workshop or about setting up additional ones, write to Vearl G. McBride, Ph.D., Culver-Stockton College, Canton, Missouri 63435.

The Practice of Guide Dog Mobility in the United Kingdom

HOWARD ROBSON

Mr. Robson is an instructor/grade "A" guide dog trainer in Great Britain, now studying for a Bachelor of Education degree in the Institute of Education at Hull University. He recently returned from Japan after participating in the establishment of a guide dog training center at Setagaya, Tokyo.

ABSTRACT: The services and concessions available to guide dog owners in the United Kingdom are fully described, with particular reference to veterinary, transportation, commercial, and state sectors. The facilities and allowances provided by the Guide Dogs for the Blind Association (GDBA) are detailed, together with financial implications. Physical and mental standards expected of guide dog applicants and the subsequent interview procedure are discussed, as is the residential course of instruction leading to graduation. The selection and training of acceptable dogs are outlined; desirable physical and temperamental characteristics are enumerated, together with factors relating to the ultimate quality and safety of the guide dog unit. The follow-up services of the GDBA are described and a short explanation of what a well-trained and suitably matched guide dog unit can do is provided.

The GDBA

The Guide Dogs for the Blind Association (GDBA) is the only agency of its kind in the British Isles. Each of the four training centers administered by the GDBA serves a specific geographical region: the Forfar center deals with Scotland and Ulster (Eire, although not a part of the UK, is also served); the Leamington Spa school is concerned with the Midlands of England; Exeter with the south (and also southern Wales); and Bolton trains those guide dog applicants from the northern region of England and north Wales.

The centers

Each center is under the supervision of a controller, who is an experienced trainer, while the administration and financial activities are dealt with by a resident bursar. A housekeeper sees to the domestic situation; there is a resident cook and three or four part-time cleaning staff and general helpers. The controler's secretary is a guide dog owner who also doubles as telephonist/receptionist, and who might be called upon to give demonstrations of her specialized type of mobility to interested visitors and professional observers. Six dedicated and efficient women, under the jurisdiction of a head kennelmaid, see to the needs, housing, and welfare of the 100 or so dogs (accepted, rejected, awaiting testing, and in various stages of training) accommodated in the center's kennels.

Trainers

There are four or five qualified trainers—with a head as deputy controller—on the staff, together with two or three apprentices with various levels of experience. Three or more assistant trainers comprise the Early Training Unit. There is a full-time handyman for maintenance duties. The work of the four centers is coordinated at the head office in London, and from here also the director of training supervises operations concerned directly with all aspects of training. Each center employs a staff of 20 or so persons, approximately 12 of whom will be resident. There is accommodation for up to ten blind students, and some nine residential courses are conducted each year, resulting in an average annual output (per center) approaching 80 guide dog units.

Financial Support

☐ The GDBA is a charitable organization, and as such relies on voluntary contributions and legacies from the general public for financial support. As luck would have it, this support is considerable, amounting to some £500,000 per annum (Rudman, 1972). There is no direct government support, but there are indirect benefits in the way of free travel passes on the nationalized railroad system and the airways network. Further, the annual dog license fee of 37½ pence is waived in the case of guide dogs.

Veterinary cooperation

The private veterinary and commercial sectors also provide indirect support. It was at the instigation of Mr. S. F. J. Hodgman, MRCVS, a member of the GDBA General Council, that the British Veterinary Association recommended to its members the introduction of a scheme providing for regular examination of guide dogs free of charge to blind owners. This biannual veterinary check-up thus ensures that any ailment troubling a guide dog can be detected at an early stage and treated promptly. To facilitate examination and also for record purposes at GDBA headquarters, each newly graduated guide dog owner is issued a health record book for his dog; it contains information such as date of birth, weight, condition, and a list of inoculations given as a precaution against disease. The book also includes a number of tear-out blanks and duplicates whereon the veterinarian, at the biannual check-up of the dog, fills out the diagnosis (if any) and treatment. The tear-out page is then sent to the GDBA so that a health record of each and every guide dog is maintained; the duplicate pages are retained by the blind person for his own guidance, and that of his veterinarian. Since guide dogs are usually so well looked after by their owners, treatment in actual fact is seldom needed. However, when it is, there is a fee for it—only the veterinary examination is free; in practice, most veterinarians are kind enough to forgo even these fees. Also, a nationwide chain of chemist shops (drug stores) dispense any veterinary prescription for individual guide dog treatment free of charge.

GDBA allowances

Besides these veterinary concessions, a number of dog-food processors sell their products to guide dog owners at reduced prices, as does a maker of collapsible beds for pets kept indoors. Various bus companies grant "privilege" travel rates to guide dogs and their owners. But allowances much more momentous than these are provided by the GDBA itself. Residential accommodation at the center during training is charged at a cost of only one pound per week. Also, not only is the trained canine sold to the newly graduated guide dog owner (after his four-week course of instruction is successfully concluded) for the nominal sum of 50 pence—actual cost over the £1,000-mark (Robson, 1973)—but a feeding allowance for the dog of 11 pence per day, payable by mailed check at two-month intervals, is admissable to all guide dog owners registered on the books of the GDBA. Since there are some 1,750 functioning guide dogs in the UK, it will be seen that the collective cost of feeding them through this scheme costs the GDBA about £70,000 per annum.

Applying for a Dog

☐ A blind person can apply for a guide dog either directly or, via his local authority, through a social worker. When the application form is initially sent in, a health certificate from a medical practitioner is also called for, together with a social worker's report. Once these forms and reports are processed, a

qualified guide dog trainer from the center serving the geographical region in which the applicant resides, travels to the blind person's home in order to carry out an interview and assess suitability for training. Generally speaking, an applicant for a guide dog should be mentally and physically well, reasonably active, sensible in outlook, and between 18 and 50 years of age. Older applicants are, however, carefully considered and often accepted for training. Health outlines, too, are in actual fact broadly based, so that those who may not be blessed with a high degree of fitness, including, for example, diabetes sufferers, will frequently find themselves suitable for a guide dog.

Conditions of approval

Occupation or prospects matter little; employed or unemployed is of no consequence—guide dog owners and applicants come from all walks of life. Financial resources too are unimportant. Even the one pound a week in residential fees are waived, and travel expenses re-imbursed, in the case of students who can ill-afford it. Replacements for blind persons whose previous dogs have died or been retired or withdrawn due to sub-standard work (the average working life of a guide dog is seven years) account for 65 percent of the total GDBA output, and take precedence over new applicants, who will usually have to wait four or five months before being called for training. Guide dog owners are made aware, and sign an agreement accordingly, that specific stipulations exist with regard to safeguards concerning the care and use of the canine, which would render it liable to re-possession by the GDBA if these conditions are not met.

Four-Week Training Course

☐ Having been interviewed and accepted for training, the applicant now awaits notice that a suitable dog is ready; the applicant is also asked if he (or she) can travel to the appropriate training center for the residential course on the specified dates. At the center, the student undergoing instruction with a dog can expect four weeks of strenuous work, both physically and mentally, but at the same time of a most rewarding nature (Robson, 1973). There is, however, ample opportunity for relaxation and leisure, in the evenings particularly, when both students and staff can take in a show, or enjoy a quiet and pleasant hour at the local pub. Food and accommodations at the center are first class; the staff work hard and are always ready to please, but without being condescending. During the four weeks when a class of students are in training, the trainers and trainees are fully occupied daily in their tasks, although an occasional afternoon is left free for recreation (and recuperation!).

Guide Dog Training

☐ The whole gamut of guide dog training might be divided into three broad areas: selection of the dog, training of the dog, and training of the student with the dog. The quality, efficiency, and safety of a guide dog unit (blind person plus dog) is dependent on a number of inter-related factors which might be summarized thusly: 1) availability of dogs temperamentally and physically suited to training; 2) trainers experienced and skillful enough to recognize those dogs suitable as potential guides, and to train them accordingly to a satisfactory standard; 3) the ability of the trainer to successfully match a particular blind person to a particular dog; 4) a blind person mentally and physically fit, capable, and motivated enough to successfully undergo training, and thence to work satisfactorily and safely without supervision; 5) the trainer's

expertise in tuition of the blind person when training with a dog, together with training comprehensive enough to foresee any given situation; and 6) provision of adequate domiciliary after-care of the unit after graduation.

Characteristics of dogs

We might also ask ourselves, what are the physical characteristics that render a dog suitable for training as a guide? Again the factors will be interrelated, and might be briefly noted as: the dog should be physically sound and of a reasonable height (at least 19 inches at the shoulder) in order to accord balance to the unit, and it should be a young adult bitch (spayed) of an age not more than two years. As far as temperament is concerned, the desirable qualities, again briefly, can be enumerated as follows: 1) there should be no signs of aggression under any circumstances whether toward humans or other animals; 2) the dog should not show any nervous traits; 3) the dog should not show any undue signs of suspicion; 4) the dog should be of a steady and consistent nature, showing no signs of fear of animals, objects, noise, or unusual environmental features; 5) the dog should be neither over-sensitive nor undersensitive, but rather a balanced equilibrium; and 6) the dog should be a willing animal, that is, willing to work and willing to please, and have good concentration that will remain undiminished over lengthy periods of time.

Acceptance rate

From the foregoing rigorous standards it will be gathered that there is a high wastage rate in the number of dogs sent to the GDBA for testing of their suitability for guide dog work. The highest rate of success, 80 percent acceptance, is achieved from the GDBA's own puppy breeding and rearing scheme. For puppies purchased from accredited breeders and subsequently walked and socialized under supervision by approved individuals until of a trainable age, there is a rejection rate of 30 percent. For adult dogs given or sold to the GDBA, nearly 75 percent are rejected. These rejected dogs are subsequently sold to the public as pets.

Early Training Unit

☐ Once a dog from reception, as a new intake is termed, is accepted as suitable for training, it will form one of a pool of five or six handled by an individual trainer. Working in company with a colleague, who likewise will have five or six dogs in his charge, he will, over a period of from three to four months, train his dogs to class standard, that is, to guide dog status. Where circumstances are deemed necessary for extra work with particular dogs, prior to advanced training, they are also handled by assistant trainers employed in the early training unit. Having progressed from the early training unit, a dog will now be in the charge of a qualified trainer, or an apprentice under supervision. Such apprentices are thus constantly learning and widening their experience for some three years before qualification, should they prove suitable for this exacting vocation.

Training walks

Sharing a transit van—which can house ten or 12 dogs in comfort—with a colleague, the trainer will visit a wide variety of natural training areas, varying from quiet side streets to busy shopping centers, where the dogs can be trained individually in an assortment of situations. Broadly speaking, the training walks for each dog will be of a half-hour's duration. At the outset, training will be confined to the quieter streets, on wide sidewalks, where the dog will be firmly instilled in the *straight-line concept*. It will also be induced

to concentrate on the task at hand through having the trainer correct it, both verbally and physically, if it shows any inclination to be distracted. During these early stages, when the dog is working on the lead only (the harness and handle are introduced at a later stage of training, when the dog is walking satisfactorily and responding to the command "Forward"), the main purpose of the exercise is to encourage the dog to walk in a straight line along the center of the sidewalk, and to be free of all forms of distraction such as sniffing, paying attention to other animals or people, stopping to relieve itself, looking around, and generally not paying attention to the trainer and the task he wishes the dog to perform. Having trained the dog to respond properly to the command "Sit" the trainer can now introduce this injunction at various *down curbs* that the unit encounters. Before long, the stimulus of the curb itself is sufficient to encourage the dog to stop and sit before crossing a road; the trainer can then dispense with the command.

Distractions

With the leather harness and rigid handle (the guiding link between man and dog) now being worn, the dog will be introduced to busier areas, where *crowd work* and *right shoulder work* can be undertaken; that is, the dog will be encouraged to allow ample width for the person at its right-hand side whenever pedestrians and static obstacles such as lamp standards, mail boxes, fire hydrants, parking meters, electricity poles, etc., are met up with. This is perhaps the most important aspect of guide work—nothing is guaranteed to lose a blind person's confidence in his dog more than a severe bump into something or someone. Right shoulder work, then, is concerned with sufficient clearance being left, by the dog, for the trainer (later the blind person) to gain passage without coming into contact with obstructions, whether moving or static.

Harness and handle

☐ The next aspect of the training is also concerned with obstructions, but this time obstacles completely cutting off passage on the sidewalk. In instances where barriers, holes, ladders (the dog must be taught to make allowance for height also), pipes, and all other manner of things completely obstruct the sidewalk, the dog is trained to go round the obstacle by veering off to the side of the pathway, there to await the command "Forward," and then negotiate the obstruction by stepping into the road and going round it before regaining the curb further along beyond the obstacle. Traffic work is dealt with when the dog is trained to ignore the command "Forward" whilst moving vehicles are in the offing, and crossing the road only when it is clear. This aspect of training is of course by no mans fool-proof, to say the least, and each blind person is asked to exercise every precaution when crossing a road with his guide dog.

Advanced Training

During these various stages of training, the dog has been taught to respond to the directional commands of left, right, and back; obedience work is undertaken, and the dog has practice on railroad stations, in shops and lifts, stairs, subways, pedestrian crossings, roads without sidewalks, on buses, in cafes and restaurants—in fact, any situation that might be met up with during its working life. The dog will also be socialized to behavior indoors through living-in at the training center residence. The training of the dog to class

Achieving class standard

standard is concluded when the trainer, in blindfold, works his dogs over a given route under the jurisdiction of a colleague.

Matching Dogs With Applicants

☐ Meanwhile, four or five weeks previously, the trainers have perused the file of applicants waiting to be trained with guide dogs. This file includes the report form issued by the trainer who interviewed the applicant in his home area, and thus contains a great deal of professional information and data vital to the match between student and dog. Having decided on a particular applicant as suitable for a particular dog, bearing in mind the optimal matching of balance, temperament, height, gait, speed of walking, and any potential peculiarities that might crop up, the various selected applicants are notified with regard to the dates of their training course. The class of blind students normally numbers eight (an average of 320 guide dog units are trained each year by the GDBA). The remaining dogs in the charge of the two class trainers are held in reserve should a mis-match occur between man and dog; in actual fact this seldom happens and the reserve dogs are held over for the next training session. Of the dogs used by the GDBA, 80 percent are Labrador retrievers and 15 percent German shepherds; the remainder are mainly golden retrievers, but include cross-breeds and some collies.

The guide dog unit

The blind person is trained with his dog in the comparatively short space of one month. Or, rather, he receives a basic course of training, since he and his dog will still be learning when they are working alone in the home area following graduation. Indeed, each blind person is the trainer of his own dog; each walk they take is a training session, and the onus is upon the guide dog owner to maintain the quality of work at a high order. But at the same time, with experience comes confidence and capability, and an air of relaxation on the part of the guide dog owner when working with his dog, as opposed to the tension felt, the trials and tribulations (notwithstanding the moments of elation) met during the initial residential course of training (Hickford, 1973). Confidence in one's dog is not immediately forthcoming at the outset; and it is factors such as these that must be taken into account by the class trainer, and attempts made to alleviate them.

The training period

On the practical side, condensed into the space of four weeks instruction, will be the whole gamut of the extended training of the dog which has taken place previously. On face value, then, the task is not an easy one. On the other hand, the dog is trained, albeit the person is not. But, so far as he is concerned, as a rational human being, the explanations forthcoming from the trainer, together with practical demonstration, should suffice to overcome the deficiencies of time. Consequently, to parallel the previous stages of training, the person has shortened sessions of straight-line walks in quiet areas, followed by work in busier areas, and obstacle and traffic work, together with reinforcement of these. Indeed, the length of time spent on the actual walks themselves might conceivably be increased, from half an hour to perhaps three-quarters of an hour or more, particularly during the later stages of the course when the trainer will not be in such close attendance to the unit, and when group walks as opposed to individual walks are the order of the day.

Follow-up Services

☐ The follow-up service of the GDBA is highly developed. There are pro-

visions for immediate after-care, where a trainer accompanies a new graduate and his dog home at the conclusion of a class. In this way, particular routes may be learned and the unit has the benefit of his expertise during what can sometimes be an awkward settling-in period. Emergency after-care is provided where urgent cases of need arise, and the help of an expert is essential in order to solve problems that at first may appear insoluble to the guide dog unit. The routine after-care service is based on a regular 12-month cycle, so that all guide dog units, no matter how well they are progressing, are visited in their home area by a trainer at least once a year. Besides this, contact is maintained on a constant correspondence basis, with a monthly progress report being sent in to the training center by new graduates for the first year, and thereafter by letter on the guide dog owner's initiative.

Role of guide dog

It is difficult, if not impossible, for a sighted person to appreciate the worth of a guide dog to its blind user. The positive psychological implications of being responsible rather than being dependent are manifold. Also, a guide dog so often proves to be much more than a companion and a means to mobility; it is a contact with strangers, a medium of communication. George Werntz, executive vice-president of the Seeing Eye, Inc., notes that the dog guide "has come to be regarded by some authorities as an effective force not only in restoring mobility to certain types of blind people but in their total rehabilitation as well" (Coon, 1959). A graduate of the GDBA, Jessie Hickford (1973) perhaps sums it up best when she describes the relaxation and confidence instilled through mobility with a tried and trusted canine partner, and the satisfaction, joy, and freedom of movement that guide dog ownership brings.

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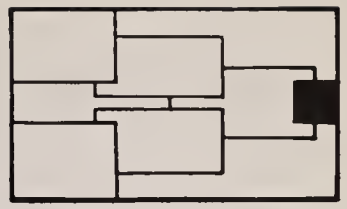
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New Deaf-Blind Center Opened at Overbrook

The Overbrook School for the Blind, Philadelphia, recently opened its new, custom-built Deaf-Blind Center for the training and education of multiply handicapped children. The classroom building—Nevil Center—and the dormitory —Biddle House—climax Overbrook's 11-year, $4.5-million building program.

Guest Editorial



Supplemental Security Income: A Change in Concept

Irvin P. Schloss

The new program of supplemental security income for the aged, blind, and disabled, commonly referred to as SSI, is undoubtedly the most far-reaching innovation in social legislation since enactment of the Medicare program in 1965.

Created by the Congress as a major provision of Public Law 92-603, the Social Security Amendments of 1972, SSI marks the culmination of the Nixon administration's welfare reform effort begun in 1969. Although the Congress did not accept major portions of that welfare reform package—financial aid for the working poor and an attempt to deal with the seemingly intractable problem of burgeoning aid to families with dependent children rolls—it did do something innovative for needy aged, blind, and disabled individuals by establishing the SSI program. By so doing, the Congress not only improved financial help and the mechanics of getting that help to needy people, it also changed the concept of that help.

The SSI program became effective on January 1. Therefore, some 3,000,000 aged, blind, and disabled individuals have already received the first of their monthly supplemental security income checks directly from the Social Security Administration, instead of a state welfare check which may have been substantially smaller in many instances. Many of them also received their regular monthly social security check at the same time. Approximately one half of the more than 3,000,000 aged, blind, and disabled individuals on state welfare rolls before January 1 were also recipients of regular social security old age, survivors, and disability insurance benefits in amounts so low that they found it necessary to apply for state welfare aid to supplement their income.

In addition, several hundred thousand aged, blind, and disabled individuals not eligible for state welfare assistance also received supplemental security income checks from the Social Security Administration under the new, more liberal SSI program. The Social Security Administration estimates that some 3,000,000 aged, blind, and disabled individuals, whose regular social security or other income and resources made them ineligible for welfare assistance from their home states, are currently eligible for SSI benefits.

Federalizing a cash-benefits program run by 50 individual states, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands for 3,000,000 people and adding another 3,000,000 beneficiaries is a mammoth undertaking with a one-year deadline. But direct administration of cash benefits to individuals is a job which the federal government does well and efficiently, as almost 40 years of issuing regular social security checks to millions of beneficiaries has demonstrated. The Social Security Administration began gearing up for the job late in 1972, and state governments have been turning over their rolls of eligibles during the past year.

The major task is to get the word to the estimated 3,000,000 people not on state welfare rolls who are eligible for SSI benefits. Early in 1973, the new Bureau of Supplemental Security Income of the Social Security Administration began sponsoring meetings throughout the country to inform governmental and nongovernmental organizations about the new SSI program, so that they could help in getting the word to eligible individuals. The American Foundation for the Blind assisted officials of the Bureau by providing the names of representatives of agencies serving blind persons to be invited to several regional meetings. Agencies serving the blind can continue to be of material assistance by encouraging legally blind clients who may be eligible for SSI benefits to apply at their nearest Social Security office.

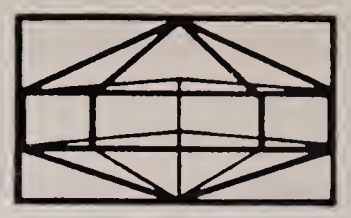
The new SSI program is positive in concept. It converts a multiplicity of state welfare programs with demeaning supervision of an individual recipient's expenditures for food, clothing, and shelter into a federally-administered, uniform program of supplemental security income. Eligible individuals who are 65 or over, blind, or disabled will receive a regular *supplemental security* check from the Social Security Administration, many of them in addition to their regular *social security* check. Many elderly social security beneficiaries, whose low cash benefits result from a lifetime of work during low-income periods, will find it possible to go to their local Social Security Administration office to apply for necessary supplemental security income; this is in contrast to the demeaning prospect of going to a state or local welfare office.

Under present law, SSI beneficiaries are entitled to receive $140 a month per individual and $210 a month per eligible couple, less income and resources which are not disregarded. Up to $20 a month of income from any source and up to $65 a month of earned income plus half of earnings over that amount are disregarded. States have the option of supplementing the SSI payment, but are required to do so if their payments to welfare recipients in December were higher than SSI benefits. Increases to $146 a month for an individual and $219 a month for an eligible couple are scheduled to go into effect in July. Unlike regular social security, supplemental security income is financed from general revenues. In effect, the Congress has established a uniform national income floor through the SSI program, thus assuring every needy American of a minimum monthly income.

The supplemental security income program is a major improvement in meeting the minimum financial needs of every American. It is an excellent base on which to build; and, in fact, the Congress began improvements and refinements even before the new program became effective. With continuing improvements in regular social security and in supplemental security income as well, we can look forward to federally-administered income maintenance programs which will be both meaningful and dignified for the beneficiary.

Mr. Schloss is coordinator of governmental relations, American Foundation for the Blind, Washington, D.C.

Hindsight / M. Robert Barnett



Think or Swim

I've come to the conclusion that I swim like I dance. That's by way of saying I don't do either one very well, and I've been wondering lately whether there is any correlation. I wonder, too, whether being unable to see has any influence upon a person's ability to indulge in either of these sports.

I've thought back over all the blind persons I have known—both male and female—examining their interest and skill in swimming and dancing. I can't detect much difference between them and a similar assortment of people who are not blind. While no one can accuse me of conservatism when it comes to the normalcy of blind people, I still must confess that this observation causes me to marvel a bit. I really believe that in both swimming and dancing there are some special problems peculiar to blind people. There are also certain overriding similarities. It strikes me that one has to observe two cardinal principles—limitations of personal skill and the limits of the immediate geography.

Take dancing, for example. I did one time. I mean I had lessons. That should have done something for my skill. I was put through the paces in the waltz, jitterbug, cha-ca—the works. There's only one trouble. Having asked a lady to dance, I never can tell what kind of dance the band is playing. So I ask the lady if she likes to do the cross-over. She usually doesn't know what I mean, so I re-establish my masculinity by teaching her. The cross-over, by the way, is particularly recommended for the blind dancer. Everybody else on the floor gets our of your way.

"Your trouble is that you don't relax." How often I, and probably every other man of my acquaintance, has heard that one. "You're too stiff. Let yourself go—bend your knees a little—let your hips sway—hold your partner lightly—she'll follow anything you do." Boy, is that a laugh! They usually prefer to follow me back to the table.

Just as in dancing, one must learn to relax when swimming. Breathe normally—even if your head does seem to be under water more than it is above. Strike out bravely—the only thing the next wave can do is break your back or put you all the way down for a gentle scrubbing of your skin on the sandy bottom. "It's really not very far across the lake—you'll make it easily—the water is over your head only a little bit of the way—besides, I'll be right beside you . . . no, there are no sharks or jellyfish around here and there's not a thing on the bottom to hurt your feet." Sure, just as in dancing one only needs to relax.

You say, "So what? There's nothing especially different about a blind person's reactions on the dance floor or in the ocean." Well, let me ask you—have you ever lost your bearings? When you do as a blind person, be sure you don't also lose your head. At best, you can lose your confidence.

Before I lost my sight at sixteen I had already learned to swim. Afterward, swimming continued to be one of my favorite forms of exercise and recreation. As I think back on it, I probably was even foolhardy—the carefree spirit of the teenager. But one day I drowned.

Well, I didn't really drown all the way—only two-thirds of the way—meaning to the point of being hauled out unconscious but alive. I blame it on blindness.

At the time I lived in a house on the bank of a Florida river. The girl next door and I decided one afternoon to push off in a rowboat and go swimming. It's rather fun to dive from a small boat, swim away, and return to cling to its side while catching one's breath.

"Race you," she breathlessly said, one hand on the boat while she treaded water. Off we charged, amid much splattering, unmindful that the unanchored boat was drifting free in the slight current caused by the incoming tide. Nothing unusual in this—I often did it alone. It was simple enough to locate the boat again by listening for the distinctive sound of little waves slapping against its forward bottom, the bow riding lightly with no weight on board.

Suddenly—"I've got to rest—I can hardly breathe." This from the girl a couple of yards away.

"You can float, I hope," I said. "Turn over on your back and rest. I'll go get the boat and bring it to you."

"Hurry—please—hurry," she gasped. "I can't float and I won't be able to stay up much longer."

Concerned a little now, I turned and started toward the boat, or at least where it ought to have been. Stopping my own splashing occasionally, I listened intently. No clue. I called to the girl to get directions. No answer. My first mistake (born of the uncertainty of inability to see), I headed back to find her. I hoped she hadn't gone under.

"Your're swimming in the wrong direction," she suddenly shouted. Evidently her bathing cap had prevented her from hearing me. "Go back—go back, and hurry."

My second mistake—starting for the boat again. It really wasn't very far to shore, or so I thought, and I could help her get there without difficulty. But I still was determined to find the boat—after all, I always had before.

Well, I didn't find it. Tiring suddenly, my own wind getting short, I figured that I had better go back to her and start for shore. I turned my face toward the late afternoon sun. This would give me the bearing that I must fix in order to hit the shore. Another mistake—that incoming tide had been stronger than expected. I had been carried

around a big bend and the easterly course was taking me straight up the channel.

The girl had made it to shore. She saw my head go under and started screaming. A fisherman was attracted by the sound, saw my head bob up and under again and got his boat there to grab me as I struggled to the surface again.

As I said—I lost confidence after that. I still like swimming, but I have to admit that I like it best in a pool or very small lake. That's what I mean by knowing limits of your geographical situation. Dancing, you may think, is not at all similar. Well, one doesn't often run the risk of drowning on a dance floor, but it was darned embarrassing that time my partner and I stumbled over the edge of the bandstand and fell backward into the bass drum.

Reprinted from the November 1962 issue of the New Outlook for the Blind.

A Sweeping Statement

Twenty-six years ago I learned how to sew a broom. Twenty-five years ago I forgot how to sew a broom and have been fairly successful ever since in forgetting that I ever knew in the first place.

Recent surveys have shown that the fine art of broom-making still is prevalent in the industrial-arts training of youthful blind persons in this country, and I was shocked to discover that things have not changed very much since I went to school.

The experience I had in a school for the blind for only little more than a year were invaluable. Not only did it afford the bridge that I as one newly blind person needed to adjust—like the rehabilitation center of today which did not exist then—but it did a creditable job of giving me a high standard of instruction. I suppose the standard of instruction in the broom shop was pretty high too, but I am afraid I will have to exclude that one phase of my experience from those I considered constructive.

It is possible that some of our readers may not know what is meant by sewing brooms. I rather doubt it, though. I rather wish that none of you did. Just in case somebody is uninformed, however, I had better explain.

Take a good look at the next broom you or your wife happen to pick up. I mean the kind of broom that looks like brooms have looked ever since you were born—not those other varieties that janitors in railroad terminals push in and out around your feet while you wait for a train. You will notice two or more strands of cord girdling the straw just a couple of inches below the point at which the handle disappears into it. These strands serve a rather definite purpose other than that of giving the broom its almost feminine shoulders-waist-skirt appearance: they hold the whole business together.

Now these encircling strands must be held in place. It is necessary, therefore, to pass a needle with more of the cord back and forth, over and under the horizontal strands, then tightening snugly. This process is called "sewing," naturally enough, for that is just what it is.

The reminiscence of this sewing exercise gives me nightmares. You see, in those years my school's program of industrial-arts training for secondary-school students included broom-making, mattress-making, chair-caning, and—well, that was it. As I recall, all of us boys were required to spend three afternoons per week and sometimes a while on Saturday mornings in attendance at the shops. We were assigned to one or another of the varied offerings mentioned above for what seemed to me interminable lengths of time—the idea being, I thought then, to learn how to be expert in broom-making, for example, from the ground up. Of course, the school probably knew what it was doing. We were developing work tolerance, maybe, or demonstrating our aptitudes. For instance, one fellow might show a lot more aptitude for tying bundles of brooms together for shipment; another might be a crackerjack at dunking the broom corn in the dye tank; still another proudly outstripped everybody else in the number of brooms he could sew in an hour.

Me—I seemed to be pretty sorry at everything but sewing. After a few months and several hundred brooms, however, I sort of lost interest, you might say. I also began to wonder if a fellow could get a job doing this when he got out of school, but the teacher said not to worry about it. I didn't, either—for just about that time I learned that I was headed for college.

One day, though, as I walked down a long corridor in another section of the shop building—the section devoted to the instruction of deaf students—I observed with interest the sounds and smells of other kinds of activity. Distinctly there was a printshop, a barbershop, a shoe shop and a laundry. Quickly I dashed back to my teacher and said, "Hey, Mr.____, why can't I put in some of my time in one of those other shops over there?"

"What?" he bellowed. "You know you can't. Those shops are for the deaf boys, and you just stay away from there."

I then went over to see the superintendent. "I think I can learn some of the operations in the printshop and the shoe shop," I said to him.

"What?" he bellowed. "Well, maybe you can, but we can't afford to take the chance."—or words to that effect.

For the rest of the year, three days a week, I sewed brooms. I really don't mind now. It was good for my character. Besides, it made me want to be a white-collar man, which I think I am. It also provided me with the psychologically traumatic base for my present inability to pick up a broom and sweep.

Now, friend, all of this was not told just to disparage brooms as industrial training or brooms as products for many of our sheltered workshops in America. I can even feel some pride in the fact that National-Industries-for-the-Blind-certified brooms are pretty darned good brooms and real workmanship is there. But too many schools put too many little Roberts through too many boring and unconstructive hours in what I still remember more as a jute mill in a prison than an industrial-arts training shop. I doubt that any of us went to work in private industry making brooms. If we were headed then, or if any kid is headed now, for sheltered-shop employment, he doesn't need four years of training to know how to sew a broom.

Reprinted from the April 1960 issue of the New Outlook for the Blind.

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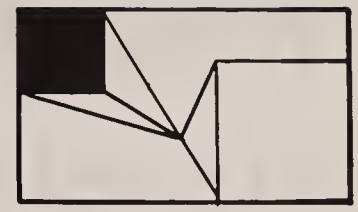
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Letters to the Editor



Closed Circuit TV Reading Systems

To the Editors:

I wish to comment on Dr. Gerald R. Friedman's unfortunate article "The Closed Circuit Television Reading System: Fact or Fiasco?" which appeared in the October, 1973 issue of the *New Outlook for the Blind*.

As is well-known neither my staff nor I have any interest in any company that manufactures, distributes or sells closed circuit TV systems for the partially sighted. However, we have had considerable experience designing, fabricating and testing prototype closed circuit TV systems, and the results of our research are made freely available to any person, organization or company who wants them. Most of the current manufacturers of closed circuit TV systems have received our reports and papers, and have incorporated many of our findings into the design of their production CCTV systems. Since our work has involved the cooperation and assistance of more than 200 partially sighted people, including myself, in critiquing and working with our prototype instruments and since those criticisms have been taken into account in redesigning our test instruments and have been included in our papers and reports, that information has been passed on to the public, including the various manufacturers of CCTV systems. It therefore, follows that Dr. Friedman is not correct when he claims that manufacturers have not involved the partially sighted in designing CCTV systems for sale, because most of them have done this through the influence which our work and that of others has had on their production designs.

Dr. Friedman points out that the Massachusetts Commission for the Blind (MCB) has suspended purchase of CCTV systems, but what Dr. Friedman doesn't point out is that the reason the MCB suspended purchase of such devices is that it had bought some 25 copies of an irrationally designed *experimental* CCTV system that proved to be virtually useless. To my knowledge, the MCB had not purchased any of the current commercially available instruments. Had they purchased and field tested such devices, they probably would still be purchasing those of high quality today.

I suggest that before Dr. Friedman seeks to publish another article of this type, he would be well advised to check his facts.

Samuel M. Genensky, Ph.D.
Physical Sciences Department
The Rand Corporation

To the Editors:

This letter is a commentary on the article "The Closed Circuit Television Reading System: Fact or Fiasco?" by Gerald R. Friedman, O.D., published in the October, 1973 issue. It is my hope that you will be able to publish this letter in a subsequent issue.

The author makes a variety of observations which I feel are misleading or erroneous. The most serious of these are the ones which comment upon what manufacturers (of such devices) have or have not considered, in the author's opinion.

For instance, the author claims that the potential user, the low vision patient, would "hardly condone such existing abuses as small knobs, dark colored knobs on a dark background, etc." Later in the article, he says: "A critical problem which was not anticipated or was just ignored by the manufacturers is the one associated with stabilization of the material to be viewed. . . ." And, finally, he says: ". . . the design was formulated by those who are sighted without consultation with the partially sighted population for which the device was intended."

The author is wrong in these claims. I can state with positive assertion that both Visualtek and Apollo Lasers, Inc., who together account for the overwhelming portion of sales of devices of this type, both have given considerable attention to "human engineering" and to the needs of partially sighted users. Both companies have historical roots and associations with the Rand Corporation, where a partially-sighted scientist (Dr. Sam Genensky) conducted much of the early investigation and evaluation of devices of this type. I won't make this letter unnecessarily lengthy by commenting on all of Dr. Friedman's comments on technical characteristics of the equipment, but I would like to observe that all of the negative characteristics he attributes to devices of this type have been evaluated with a view towards the needs of the partially sighted. In most cases (although not all), Dr. Friedman's conclusions rehash old ground . . . he argues in favor of various attributes which have been proven in actual usage by the partially sighted to be either unnecessary or actually detrimental.

It is particularly disturbing to find Dr. Friedman suggesting the P. Davis version of the CCTV as a viable approach for further technical exploration. Most early systems, pre-1971, utilized this approach, and it was conclusively demonstrated via actual experimentation and usage that this was an inferior approach, both from the viewpoints of functional utility and effectiveness, and cost. Furthermore, his claim that the Massachusetts Commission for the Blind stopped purchasing CCTV's due to mechanical complications with those previously purchased for its clients is highly misleading. It's true . . . but he should also point out that the Commission never purchased a commercially available version. Rather, they contracted to purchase systems built privately using P. Davis' design approach, and subsequently stopped using them because these systems proved to be unworkable and unuseable in a practical sense.

Larry Israel, President
Visualtek
Santa Monica, California

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Reply

To the Editors:
Dr. Genensky's comments on my article "The Closed Circuit Television Reading System: Fact or Fiasco?" are certainly appreciated. I adhere firmly to the philosophy that debate and controversy remain the best means to further research and diverse thinking. It is unfortunate that he has elected to overlook the facts he so freely advises others to check.

If the CCTV industry had employed his developments, as Dr. Genesky implies, then where are they? If they are manifest in what we see as the current generation CCTV's, they simply are inadequate. It is vain rationale, at best, to develop a device aimed at this population and spend more effort promoting it than developing and perfecting it.

Dr. Genensky states that the partially sighted were consulted in the design of the CCTV and cites himself as an example. I may be misinformed, but I don't consider a Ph.D. avidly involved in CCTV development as representative of the population for which it is intended. If this is who the CCTV was developed for, then I stand corrected; and we should be concentrating our efforts on this even smaller population.

It is most disturbing to find Dr. Genensky referring to the term "high quality" when referring to the "current commercially available" instruments (CCTV's). We are forced to conclude that Dr. Genensky would choose to ignore rather than attempt to solve the problems: 1) poorly designed and awkwardly placed controls; 2) insufficient stability and flatness of material to be viewed; 3) the requirement for a high degree of manual dexterity; 4) insufficient servicing capability; 5) lack of provision for adequate training of users; 6) residual or latent images; and 7) high cost.

Dr. Genensky would be well advised to pay less attention to the trees and begin to consider the forest.

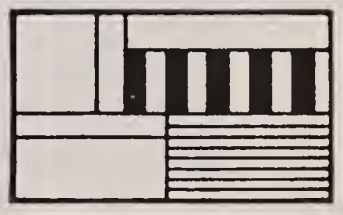
Mr. Israel lists some quotes from my article and then states, "The author is wrong in these claims." He then proceeds vis-a-vis Madison Avenue with his assertion that these problems were not overlooked. If it is true they were not overlooked, then one has only to look at the end product and ask, "What happened?" It is a far worse crime to have researched these problems and ignored them than to have never considered them.

In his comments about the Massachusetts Commission for the Blind, Mr. Israel is definitely wrong when he states, ". . . the Commission never purchased a commercially available version," as he would find out if he bothered to take phone in hand before taking pen in hand (unless Mr. Israel does not consider his own company's product a commercially available unit).

If Mr. Israel could put aside his vested interests long enough to reread the part about the Phil Davis design, he would realize the absurdity of his comments. It was not suggested that the Phil Davis version be adopted, but only that it be used as an example of a solution to the problem of manual dexterity—a problem Mr. Israel and his company would rather overlook.

Dr. Gerald R. Friedman, O.D.
Low Vision Clinic
Boston University Medical Center

Review



Like Other People. Produced by Didactic Films Ltd., Gatwick House, Horley, Surrey, England. 16mm, sound, color, 37 minutes. Price: $375 - $35 rental. Distributed in the U.S. by Perennial Education Inc., 1825 Willow Road, Northfield, Illinois 60093

Reviewed by Derek L. Burleson, Ed.D.

This British film, financed by the Spastics Society, drew spontaneous applause when shown recently at a national meeting of sex educators in Washington, D.C. It was that moving even to the sophisticated audience who viewed it because it touched the nerve center of personhood—the need for intimacy and love of all human beings. This is an angry film; it is also a hopeful film. While it focuses on the problems of the cerebral palsied, the hard-hitting points it makes are applicable to any handicapped group. One hopes it will be seen by general audiences as well as by those who work directly with the handicapped in schools, institutions and social agencies.

The characters in the film are real people who live in a residential home for the palsied in England. Through their own words we come to realize their anger and frustration at society's failure to understand their need to do productive work and be paid for it, their desire to marry and care for each other, their desire for privacy when they seek it. Willie and Margaret, the central characters, allow us to share in their growing relationship. Margaret carries most of the narration of the film as we see her and Willie doing art work, preparing a meal, giving shampoos to each other, visiting a community bazaar. Other sequences feature group discussions on concerns of the cerebral palsied—about employment, marriage, and the capacity of the retarded handicapped person to give and receive love.

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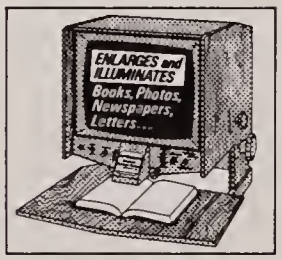
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the overlay of a British accent will take a little getting used to. In some cases the producers have wisely provided subtitles for those participants whose speech is more seriously distorted. The central impression conveyed by the palsied individuals in this film is that they really are "like other people," in spite of their handicapping conditions. It remains to be seen whether our social and institutional policies are ready to accept this premise.

Reprinted from the September 1973 issue of SIECUS Report. *Mr. Burleson is SIECUS (Sex Information and Education Council of the U.S.) director of Educational and Research Services, New York City.*

Help for the Handicapped Child, by Florence Weiner. New York: McGraw-Hill, 1973. xv+221 p. $7.95.

Reviewed by Dava Grayson

Parents of a child with a handicap want him to get the best possible medical and social care. Often, however, their first attempts to obtain services result in discouragement, particularly when the choice has been limited to those resources the parent has come upon by chance, or at least in a somewhat haphazard manner, rather than having made a decision based on a careful survey of all available services.

It is the purpose of this book, *Help for the Handicapped Child,* to provide an introduction to services available to the handicapped child and his family. Written primarily for the parent and for professionals, such as teachers, physicians, and social workers, who might be called upon to make referrals, it describes resources throughout the United States on the community, state, and national levels, both public and private.

The book is divided into two main parts, "Handicaps" and "General Information." In Part One a separate chapter is devoted to each of the following handicaps: allergies and asthma, arthritis, birth defects, blindness and partial sight, cancer and leukemia, cerebral palsy, Cooley's anemia, cystic fibrosis, deafness and partial hearing, dental problems, diabetes, drug addiction, epilepsy, heart disease, hemophelia, kidney disease, learning disabilities, mental illness, muscular dystrophy, orthopedic disabilities, retardation, sickle-cell anemia, Tay-Sachs disease, tuberculosis, and venereal disease. Each chapter begins with a general description of the condition and goes on to explain methods of treatment, prognosis, recent medical progress, and future medical goals. Available drug therapy and diagnostic tests and examinations are also discussed, followed by a section on services which includes the types of medical specialists who treat the condition, the availability of community health information, state health services, federal research programs, and a complete description of services provided by voluntary health associations, both national headquarters and affiliate agencies. The chapter ends with a brief vocabulary section defining words relating to the handicap.

The "General Information" surveyed in Part Two includes community services such as local departments of health, visiting nurse services, and community councils information services; state services for handicapped children, with a description of the Crippled Children's Program, special education, and rehabilitation services; national government services; health plans and insurance information; recreation programs; and emergency services.

Although the chapter on "Blindness and Partial Sightedness" will most likely provide no new information to people in the field, it is a basic introduction to services for the visually handicapped child and includes a complete listing of state agencies. The general description of blindness is primarily concerned with defining blindness, briefly discussing the major causes of blindness in infants, and stating educational objectives, behavioral problems, and problems of the multiply handicapped blind child. No distinction is made between adventitious and congenital blindness. However, as the purpose of this book is to provide information on where to get help, it is to be expected that the descriptions of handicaps and diseases will be relatively short and therefore somewhat incomplete.

Clearly written and easy to use, *Help for the Handicapped Child* is an extremely useful reference work. It is, of course, most valuable in providing information in areas with which the user is less familiar, when it is providing an introduction to sources of help. For the parent of the multiply handicapped blind child who is already receiving services from agencies for the blind, this book may provide welcomed information on new sources of aid from organizations not primarily concerned with visual impairment.

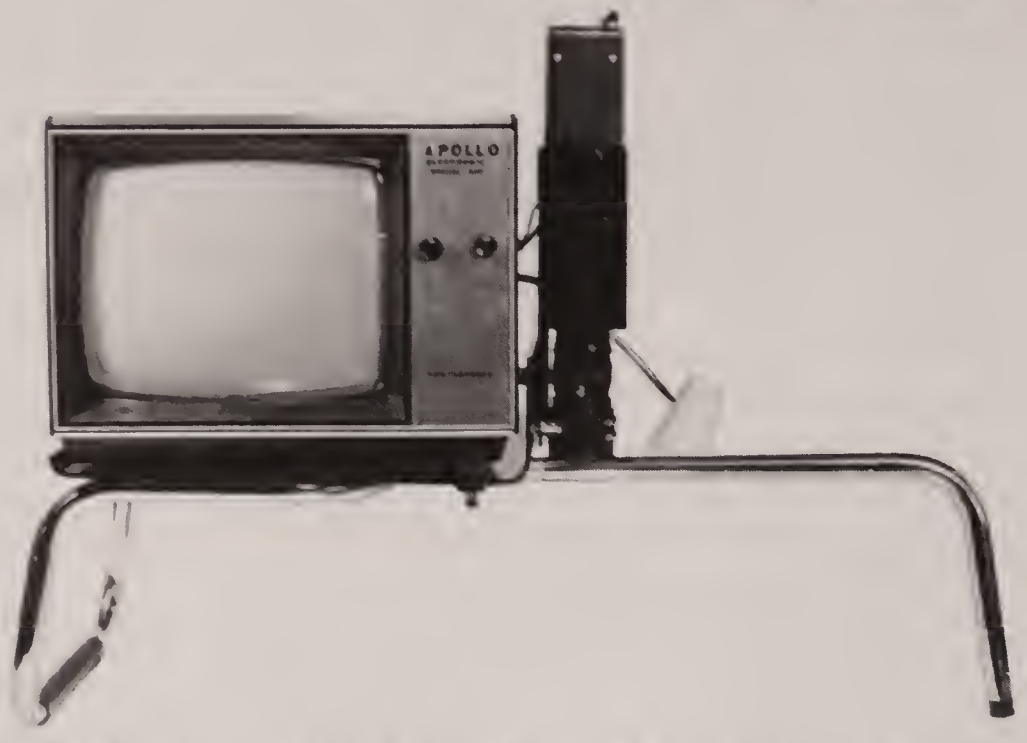
Ms. Grayson is an editor with the American Foundation for the Blind, New York City, and has worked on several resource guides for handicapped children.

Getting It All Together—Teaching Human Relationships and Communication Skills in Nursing Homes, by Irving R. Dickman. United Hospital Fund of New York, 3 East 54th Street, New York, N.Y. 1972. 98 p.

Reviewed by Beth Phillips

This manual for in-service educators in nursing homes was prepared as a supplement to the final report of the United Hospital Fund of New York's Nursing Home Trainer demonstration project. As stated in the introductory chapter, it offers no "great new discoveries," but describes an approach to improvement of patient care. It provides a relatively detailed over-view of how, by using relevant, meaningful examples and group dynamics, communication skills and interpersonal relationships can be improved. It emphasizes the importance of silence, of non-verbal communications, of listening, observing, expressing interest, and concern in establishing good human relationships.

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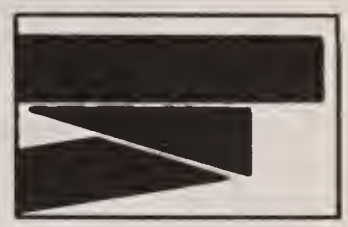
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Although somewhat repetitive, the report is easily readable. Six lesson plans with guidelines, suggestions and "how to's" for discussion leaders are presented with numerous anecdotes and examples specifically related to the nursing home setting. Its usefulness, however, is not limited to nursing homes. The manual contains a selected listing of books, pamphlets, and films dealing with human relationships, communication, and leadership skills. The approach described and the material presented can be adapted and utilized by supervisory and educational personnel in any setting in which social and health services are provided.

Miss Phillips is a specialist in training, Program Planning Department, American Foundation for the Blind, New York City.

Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1000 words in length.*

Mary E. Switzer: A Tribute—A Memorial

Peter J. Salmon

The late Mary Elizabeth Switzer had a special interest in blind and visually handicapped persons and manifested her concern for their problems in many practical and progressive ways. In addition to her staunch advocacy of improved services for the blind, she had a life-long interest in the problems of the deaf and was instrumental in the development of many important programs for them.

She played a prominent part in the development of the National Accreditation Council for the Blind and Visually Handicapped, for which she served as a director. She also worked with a number of other national agencies, including the American Association of Workers for the Blind (AAWB). Because she believed the AAWB had a special mission to perform, she gave not only advice, but aided the association in obtaining grants to do work which she felt would be helpful in the field of work for the blind. Among these was the support of the annual AAWB publication, *Blindness.*

Mary E. Switzer was the architect of legislation for the training and education of deaf-blind children which resulted in the very vital program for these children under the auspices of the Bureau for Handicapped Children, U.S. Office of Education. In addition, her efforts led to the enactment of a law creating the National Center for Deaf-Blind Youths and Adults, operated by the Industrial Home for the Blind.

Mary E. Switzer served under seven different secretaries of the U.S. Dept. of HEW, an indication of her versatility and value as an outstanding civil servant. She was respected by Congress to a degree rarely attained by other representatives of the executive branch of the federal government. The tributes to Mary Switzer were not only numerous, but varied. In the rear of her suite of offices in Washington, before she retired, a whole room was devoted to these mementos. As a final gesture of appreciation and respect, the HEW South Building at 330 C Street, S.W., Washington, D.C., was dedicated as the Mary E. Switzer Building by an act of Congress soon after her death.

Under the leadership of the National Rehabilitation Association, and sponsored by a large group of nationally prominent individuals who knew and respected her ability and achievements, a memorial known as the Switzer Fellows is to be established to honor her memory. The Fellowship recipients will consist of a group of ten to fifteen individuals, including handicapped persons, chosen from various fields, who will study important issues relating to rehabilitation.

Mary's passing left a void, as she was one of the most dynamic leaders in the field of rehabilitation. Her philosophy and the programs she promoted over the years, helped to make rehabilitation an increasing focus of Congressional attention. This was particularly true of the severely handicapped. As a result of increased congressional responsiveness, until recently, the funding for the federal-state rehabilitation program was almost automatic.

Today, however, rehabilitation is at the crossroads. There is a desperate need for reevaluation of rehabilitation; a hard look at where it is today; and where it should be going in the immediate years ahead.



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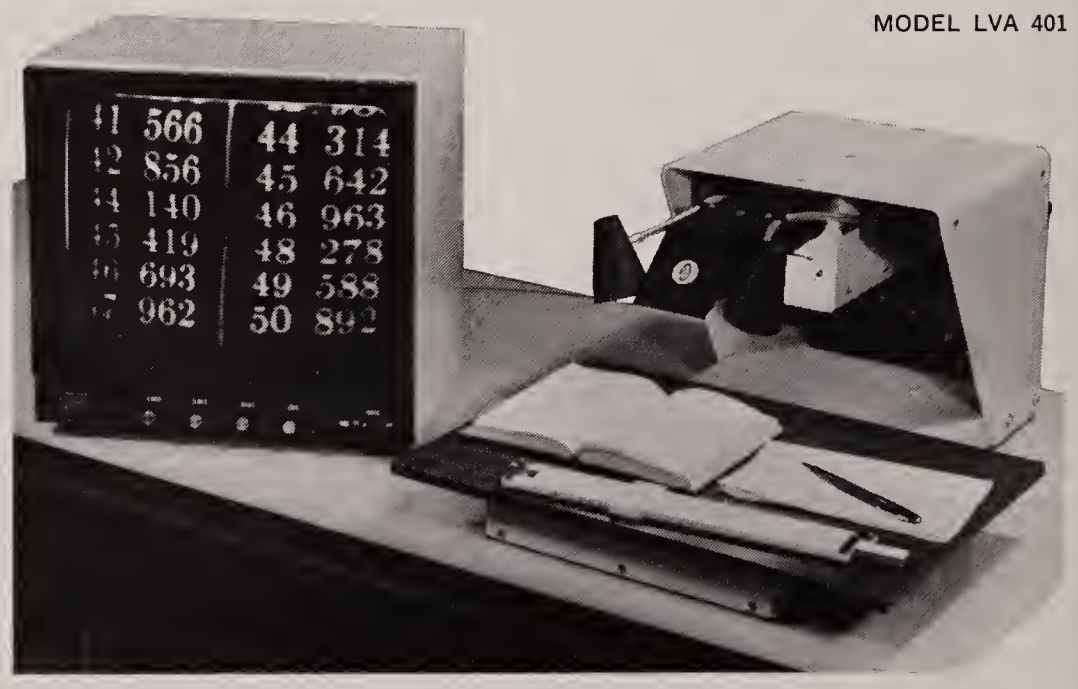
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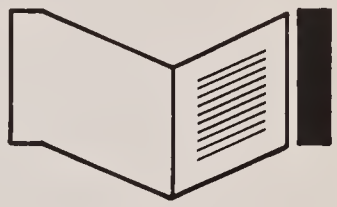
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The objective of the Mary E. Switzer memorial is to focus attention on rehabilitation. This will be accomplished by studies in depth, with action as the keynote. Proposals will be developed and disseminated throughout the entire field of rehabilitation, with feedback and reconsideration as the next step. Ultimately, legislation will be sought to again stabilize the federal-state rehabilitation program, in order to provide services for more handicapped individuals. Insofar as it is possible, the whole endeavor will take on the spirit of Mary Switzer, and capture some of the dynamic push which was so characteristic of her service over the years on behalf of handicapped persons.

The goal for the Mary E. Switzer Memorial Fund is $250,000. Approximately 60 percent of this amount must be raised from foundations. The remainder will come from organizations and individual gifts. The entire fund, principal and interest, will be liquidated within a ten-or 15-year period. The estimated cost of one seminar involving 12 or 15 Fellows, including the cost of preparation, is to be $25,000. The cost of a research fellowship will be approximately $15,000. The cost of a one-year scholarship will be approximately $2,500.

Contributions to the Memorial Fund may support one seminar or a part of a seminar, one or more research fellowships, or one or more scholarships. It is planned that the major campaign for raising money will be concluded within the next two years. Pledges may be paid over a three-to five-year period. Further information may be had by contacting Dr. Peter J. Salmon, Administrative Vice President, Industrial Home for the Blind, 57 Willoughby Street, Brooklyn, New York 11201; or Mrs. Olive Bannister, Chairman of the Committee of the Mary E. Switzer Fellows, National Rehabilitation Association, Research and Scholarship Fund, 1522 K Street, N.W., Washington, D.C.

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

The Newly Blind: Mental Distress, Somatic Illness, Disability and Management, by Roy G. Fitzgerald. *Eye, Ear, Nose and Throat Monthly* (Professional Press, Inc., 5 North Wabash Avenue, Chicago, Illinois 60602), Vol. 52, No. 3, March 1973, pp. 99-102; No. 4, April 1973, pp. 127-132. Two-part article by the Director, In-Patient Psychiatry, Pennsylvania Hospital in Philadelphia. His research on newly blind individuals was done in London, England when he was Research Associate at the Tavistock Institute of Human Relations. Reprint requests should be addressed to Roy G. Fitzgerald, M.D., Pennsylvania Hospital, 807 Spruce Street, Philadelphia, Pennsylvania 19107.

The Blindfold Experience, by Kay McDonald, Michael Friedman, and Sheldon Weinberg. *Education of the Visually Handicapped* (1839 Frankfort Avenue, Louisville, Kentucky 40206), Vol. 5, No. 3, October 1973, pp. 84-86. Discussion of the value of the blindfold as a useful way of giving sighted professionals an understanding of the "reality" problems of blindness in such areas as mobility, techniques of daily living, and the use of aids and appliances.

A Writing Vocabulary Study Relative to Braille Contractions to Be Mastered by Primary Level Children, by Grace D. Napier. *Education of the Visually Handicapped* (see address above), Vol. 5, No. 3, October 1973, pp. 74-78. Five vocabulary lists relevant to the primary grades were combined into a Composite Vocabulary. Of the 190 contractions available in the braille system only 169 are required in the Composite Vocabulary. The author feels it is important for teachers to know the 21 contractions that do *not* appear and thus need not be included in the beginning instruction.

Development of Number Concept in Blind Children, by Mary Moore. *Education of the Visually Handicapped* (see address above), Vol. 5, No. 3, October 1973, pp. 65-71. Summary of the classification and seriation tasks as developed at the Learning Research and Development Center of the University of Pittsburgh and adapted by the author for use in educating blind children.

The Needs of the Visually Handicapped, by Brian Harcourt. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London WIN 6AA, England), Vol. 57, No. 677, September 1973, pp. 226-231. Text of a paper presented at a one-day conference on reading needs sponsored by the Library Association and the National Association for the Education of the Partially Sighted, held in London, June 5, 1973. Some details are given as to how various defects (glaucoma, cataracts, macular degeneration) affect different areas of the visual field.

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Back to the Ben, by Anthony de Silva. *The New Beacon* (see address above), Vol. 57, No. 667, September 1973, pp. 234-236. The fifth annual gathering of the Milton Mountaineers took place in July of this year when 20 blind persons together with 7 seeing companions climbed to the 3,768-foot summit of Lochnager in Scotland.

The Blindness System and the People It Serves, by Durward K. McDaniel. *The Braille Forum* (American Council of the Blind, 106 N. E. 2nd Street, Oklahoma City, Oklahoma 73104), Vol. 12, No. 2, September October 1973, pp. 1-5. Text of a speech delivered at the July 1973 Biennial Convention of the American Association of Workers for the Blind, held in Cleveland, Ohio.

Effects of Sex, Race, and Age on Creative Thinking Abilities of Blind Children, by Glennelle Halpin, Gerald Halpin and E. Paul Torrance. *Perceptual and Motor Skills* (Box 1441, Missoula, Montana 59801), Vol. 37, No. 2, October 1973, pp. 389-390. Brief report on a study of 61 functionally blind children, aged 6 through 12, in residential schools for the blind in Alabama, Georgia, and South Carolina.

Embossing Arabic Letters and Numbers on New Raised-Line Polyethylene Paper: An Aid for the Blind, by Ruth L. Barr. *Science* (American Association for the Advancement of Science, 1515 Massachusetts Avenue, N.W., Washington, D. C. 20005), Vol. 169, July 3, 1970, pp. 94-95, illus. Description of a polyethylene paper that can be marked on a hard surface with an ordinary oversize ball-point pen or dull pencil point resulting in a raised-line imprint on the same side of the paper as used for writing. Reprint requests should be addressed to the author at 53 Webster Acres, Webster Groves, Missouri 63119.

Beauty for the Blind, by Paul Pintarich. *American Forests* (American Forestry Association, 1319 18th Street, N.W., Washington, D. C. 20036), Vol. 79, May 1973, pp. 13-14, illus. Story of a fishing trip on Oregon's Clackamas River by 15 teenage boys from the Washington State School for the Blind, Vancouver. The boys were the guests of the Whitewater Boaters Club of Oregon.

Back on the Job, by Phyllis Dale. *Tennessee Public Welfare Record* (Tennessee Department of Public Welfare, 410 State Office Building, Nashville, Tennessee 37219), Vol. 36, No. 4, October 1973, pp. 74-76. The story of Bill Walsh, a computer programmer who lost his sight in 1968, whose success in overcoming the problems created by his blindness led to his being selected as Handicapped Citizen of the Year for Middle Tennessee.

Many Hands Offer a Hand Up, by LaVerne Humphrey. *Tennessee Public Welfare Record* (see address above), Vol. 36, No. 4, October 1973, pp. 92-94. The story of a self-help project of the Knoxville Association for the Blind by the Director of the Knoxville Training Center for the Visually Impaired.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Aging

Alternative To Institutional Care of the Aged, by Margery G. Cohen. *Social Casework* (Family Service Association of America, 44 East 23rd Street, New York, N.Y. 10010), Vol. 54, No. 8, October 1973, pp. 447-452. Describes the Levindale Day Care Program, a "five-day-a-week program for elderly people who are limited physically or psychosocially but who have a viable home plan in the community to meet nighttime and weekend needs."

Individualizing Therapy for the Mentally Impaired Aged, by Elaine M. Brody, Charlotte Cole, and Miriam Moss. *Social Casework* (Family Service Association of America, 44 East 23rd Street, New York, N.Y. 10010), Vol. 54, No. 8, October 1973, pp. 453-461. "The existence of disabilities accessible to therapy signifies that the label of chronic brain syndrome should indicate intervention, not benign neglect."

Architecture

Architectural Barriers to the Physically Disabled, by Sue-Anne Kirkland. Canadian Rehabilitation Council for the Disabled (242 St. George St., Toronto, Ontario M5R 2Nf, Canada), 1973. 82p. Mimeo. Paperbound, $2. A thesis which presents evidence of "the need to plan for the accommodation of those with all types and degrees of physical impairment in the design and construction of present and future public buildings and transportation facilities."

Career Education

Essays on Career Education, published by the Northwest Regional Educational Laboratory (order from the Superintendent of Documents, Washington, D.C. 20402). $2.10. A book containing 24 essays on career education.

An Exploratory Study to Analyze New Skills Content in Selected Occupations in Michigan and the Mechanism for Its Translations into Vocational Education Curricula, prepared by the Manpower Administration (order from the National Technical Information Service, 5285 Port Royal Rd., Springfield, Virginia 22151), $3. Research and analyses of 3 vocational education programs to find out whether schools are molding vocational courses and programs around labor market needs.

Youth: Transition to Adulthood, prepared by the Panel on Youth of the President's Science Advisory Committee. (Order from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402). Report presenting a year's work of a group of ten social scientists and educators, their findings and recommendations. Focuses on the 14-24 age group.

Education

Instructional Alternatives for Exceptional Children, edited by Evelyn N. Deno. Council for Exceptional Children (1411 S. Jefferson Davis Hwy., Arlington, Virginia 22202), 1973. 195 p. $2.50. Explores alternatives to segregated special education services.



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Right to Education: Anatomy of the Pennsylvania Case and Its Implications for Exceptional Children, by Leopold Lippman and I. Ignacy Goldberg. Teachers College Press (Teachers College, Columbia University, 1234 Amsterdam Ave., New York, N.Y. 10027), 1973. 141p. $7, cloth; $3.50, paper; plus 25¢ for shipping and handling. Traces the landmark "right to education" suit won by the parents of handicapped students against the state of Pennsylvania. The court ruled that all children are entitled to a public education, "regardless of the cost or complications."

Films

Public Attitudes Toward the Physically Disabled. Research Department, Curative Workshop of Milwaukee (10437 W. Watertown Plank Rd., Milwaukee, Wisconsin 53226), 90 min., Milwaukee Media #14, sizes: ½ inch Sony tape, 1 inch Bell and Howell; ¾ inch Sony cassette tape, 2 inch high band for commercial broadcasts. $10. The culmination of a four-month seminar in which a group of severely physically disabled persons participated. The group, comprised of mostly college graduates, met weekly with a consultant from one of several humanities and discussed attitudes toward the physically disabled as reflected in theatre, music, literature, theology, philosophy, medieval history, and 19th century English history.

Research

The Research Setting and the Right Not To Be Researched, by Edward Sagarin. *Social Problems* (Society for the Study of Social Problems, Social Problems, Executive Office, P.O. Box 533, Notre Dame, Indiana 46556), Vol. 21, No. 1, Summer 1973, pp. 52-64. Challenges the probability of value-free social research, when the research is financed by value-biased institutions, to whom the researcher is accountable. The questionable objectivity of such studies is not however the major concern, but whether or not the group chosen for study under such circumstances can refuse to be researched, particularly when the findings of the study might be harmful to it. Alternative research proposals are made.

Social Work

Heredity, by Sylvia Schild. *Social Casework* (School of Social Work, California State University, Sacramento, California 95819), Vol. 54, No. 17, July 1973, pp. 387-392. The significance of a genetic diagnosis to an individual, from the social worker's point of view. Also suggests a need for more knowledge about biological determinants of growth, development, and behavior on the part of the social worker.

In Brief

■ The *American Foundation for the Blind Newsletter* and *Washington Report* are now available in braille in a combined edition as well as in print. Those who wish to receive the braille newsletters should write the Publications Division, American Foundation for the Blind, 15 West 16th Street, New York, New York 10011.

■ The Rehabilitation Institute was one of 11 departments and agencies brought under the umbrella of a new College of Human Resources at Southern Illinois University, Carbondale. The recent reorganization is part of an attempt to "improve the quality of human life at the individual, family, and community levels." Another priority objective of the new College is the development of a strong cooperative gerontology program, which will involve other University agencies, such as the School of Medicine, Health Education, and the Law School.

■ The Harvard Business School's 1974 Program for Health Systems Management will be held from June 16 to July 26. The Program is sponsored by the Harvard graduate schools of business, medicine, and public health, and is taught by their faculties. The principal mode of instruction is the case method, and topics included in the course will be financial management; organizational issues; the health delivery system and its environment; operations management and computer-based systems; quantitative techniques and control systems; and policy and strategy. The fee is $2750, including materials, room and board, and activities. Individuals interested in applying should write to the Program for Health Systems Management, Harvard Business School, Boston, Massachusetts 02163.

■ The National Eye Institute's new newsletter, *20/20,* is for the vision research community and anyone interested in the activities of the Institute. The newsletter aims to be useful in "preparing grant applications, responding to contract requests for proposals, and in gaining better understanding of the Institute and its policies, as well as those of the National Institutes of Health." Publication will be on a sporadic basis unless response warrants otherwise. Those interested in the newsletter should contact the U.S. Department of Health, Education, and Welfare, Public Health Service, National Institutes of Health, Bethesda, Maryland 20014.

■ Residents of Pennsylvania's state institutions for the mentally ill and mentally retarded were assured of their right to vote on the basis of a recent opinion issued by the Attorney General of that state. The institutions have been urged to give residents every opportunity to support candidates of their choice. In the past, institutional residents have been denied the right to vote, either by institutional staff who did not help residents pursue their rights, or by voter registration officials who would not accept institutional residents as qualified voters.

■ The National Braille Association announces publication of its *NBA Manual for Large Type Transcribing*. The manual attempts to set up standards and directions for transcribers who type, rather than for those using off set printing. Subjects covered range from mathematics, to music to literary works and textbooks. Copies of the manual are available free from the Division for the Blind and Physically Handicapped, The Library of Congress, Washington, D.C. 20542.

■ The College of Health, Physical Education and Recreation of Texas Woman's University in cooperation with the Texas School for the Blind has developed a collection of 80 slides on physical education and recreation for the blind which is being duplicated and will be made available to groups on loan. With the exception of the Perkins collection it is the only one of its kind.

■ Captions which are invisible to the general viewing audience will permit deaf TV viewers to see TV dialogue. This technique, "closed captioning," works by means of a special decoder which reveals written material at the bottom of the TV screen. The Public Broadcasting Service (PBS), which launched the experiment chose six cities for the initial stages: Washington, D.C.; New York City; Los Angeles, California; Austin, Texas; Portland Oregon; and Topeka, Kansas. The participating PBS member stations in these cities will be supplied with decoders which will pick up the captions at the same time the programs are being viewed nationally. Individuals suffering from hearing loss will be invited to view these experimental programs and their responses will be evaluated by Gallaudet College, Washington, D.C. More than 60 of the PBS member stations volunteered to participate in the experiment. The cities selected were on the basis of geographic spread, availability of hearing-impaired audiences and mix of VHF/UHF broadcast channels. Six other cities have been chosen as additional test sites: Spokane, Washington; Jackson, Mississippi; Hartford, Connecticut; St. Paul, Minnesota; Denver, Colorado; and Jacksonville, Florida.

■ Ophthalmologists and allied personnel are being urged to apply for long or short-term commitments in developing countries around the world. Applicants are requested to send resumes to Harry Silsby Brown, M.S., Assistant Secretary, International Association for the Prevention of Blindness, 515 E. Micheltorena Street, Santa Barbara, California 93103.

Appointments

■ U.S. Social Security Administration: **James B. Cardwell,** Commissioner.

■ U.S. Department of Health, Education, and Welfare: **John B. Rhinelander,** general counsel.

■ U.S. Department of Health, Education, and Welfare; Social and Rehabilitation Service: **Dr. Gary A. Massel,** associate administrator for planning and research.

■ Veterans Administration Central Office: **Dr. Thomas J. Radley,** deputy director for prosthetics in the surgical service.

■ Carrol Rehabilitation Center for the Visually Impaired: **Stephen W. Albro,** administrator of St. Raphael's Geriatric Adjustment Center.

■ New York State Board of Social Welfare: **Barbara Blum,** assistant executive director.

■ North Dakota State School for the Blind: **Charles R. Borchert,** superintendent.

■ Chicago Lighthouse for the Blind: **Edward S. Silber,** executive director; **Milton Samuelson,** director of professional services and assistant to the executive director; **C.A. Hlad,** director of the sheltered workshop.

Coming Events

March 14-16 California Transcribers and Educators of the Visually Handicapped, 15th Annual Conference, Newport Beach, California.

March 14-17 Greater Washington Area Council of Adoptable Children, Fourth North American Conference, Washington, D.C.

April 5-6 International Association for the Study of Perception, Annual Conference, Detroit.

April 8-11 American Personnel and Guidance Association, Annual Convention, New Orleans.

April 14-19 Council for Exceptional Children, 52nd Annual International Convention, New York City.

April 25 Association for Research in Vision and Ophthalmology, Annual Spring Meeting, Lido Beach, Florida.

April 25-26 Vision Rehabilitation Clinic, Vision Rehabilitation Course, Boston.

May 7-8 National Braille Association, Regional Meeting and workshops, El Paso, Texas.

May 19-24 National Conference on Social Welfare, Cincinnati.

May 24-25 International Association for the Prevention of Blindness, Conference on the Prevention of Impaired Vision and Blindness, Paris.

May 29-June 1 Association for the Care of Children in Hospitals, Ninth Annual Conference, Chicago.

June 2-8 American Association on Mental Deficiency, 98th Annual Meeting, Toronto.

June 9-14 Special Libraries Association, Toronto

June 16-24 World Conference of Physical Therapy, Montreal.

June 17-28 American Home Economics Association, Altantic City, New Jersey.

June 24-29 Association for Education of the Visually Handicapped, San Francisco.

July 28-August 2 International Association of Applied Psychology, 18th International Congress, Montreal.

August World Council for the Welfare of the Blind, Sao Paulo, Brazil.

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MSC 118	**The Grove Park Report**	0.50	**0.25**
MSC 104	**Industrial Arts for Blind Students**	1.00	**0.50**
MSC 123	**Multiply-Impaired Blind Children**	1.50	**0.75**
MSC 107	**No Place to Go**	1.35	**0.65**
MSC 133	**Opportunities for Blind Teachers in Public Schools**	0.50	**0.25**
RS 120	**Perceptual Factors in Braille Word Recognition**	3.00	**1.50**
CP 106	**Proceedings of the International Congress on Technology and Blindness (Four volume set)**	12.00	**6.00**
CP 107	**Proceedings of the Research Conference on Geriatric Blindness and Severe Visual Impairment**	1.50	**0.75**
CP 108	**Proceedings of the Regional Institute on the Blind Child Who Functions on a Retarded Level**	2.00	**1.00**
MSC 149	**Science and Blindness: Retrospective and Prospective**	3.75	**1.90**
MSC 109	**The School Age Blind Child Project**	0.70	**0.35**
MSC 137	**Social Group Work With Deaf-Blind Adults**	0.75	**0.40**
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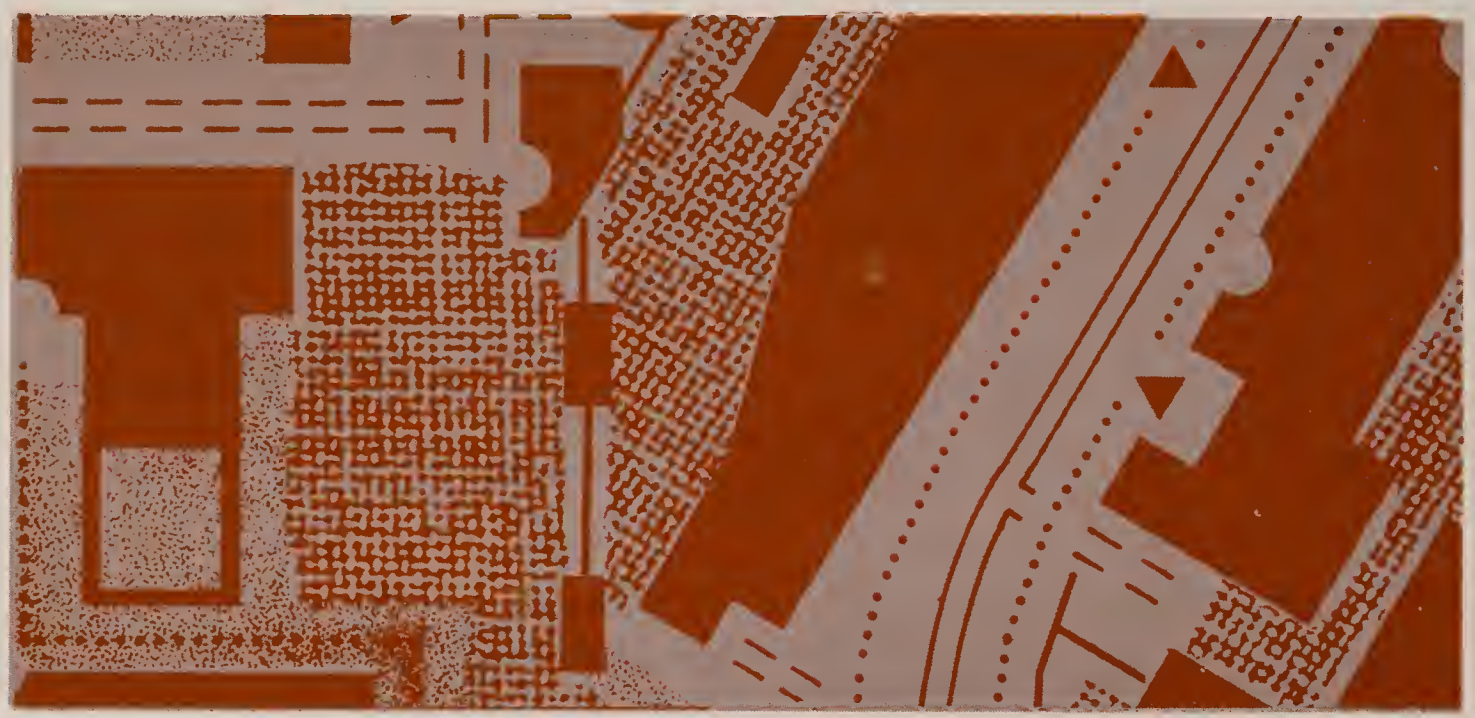
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Sites, Perception, and the Nonvisual Experience explores the environment of the blind person as he perceives and conceptualizes it. Through 20 lengthy conversations with blind students and specialists, transcripts of which are included in the appendix of this book, the authors have sought to uncover the underlying mechanisms behind and principles related to the tactual and auditory events that blind people find particularly useful in the perception of space. Based on this wealth of information, they addressed themselves to the design and preliminary testing of a detailed mobility map of an area whose complexity and density would require that the individual blind traveler who wished to become truly mobile within its bounds would have to understand the relationships of its physical components. The area chosen was the campus of the Massachusetts Institute of Technology, a large complex of interconnected buildings. The research presented in this volume will be of interest to professionals in environmental planning, mobility instruction, spatial orientology, perceptual psychology, and rehabilitation training, as well as architectural design.

Ms. Kidwell and Mr. Greer are graduates of the master of architecture program of the Massachusetts Institute of Technology.

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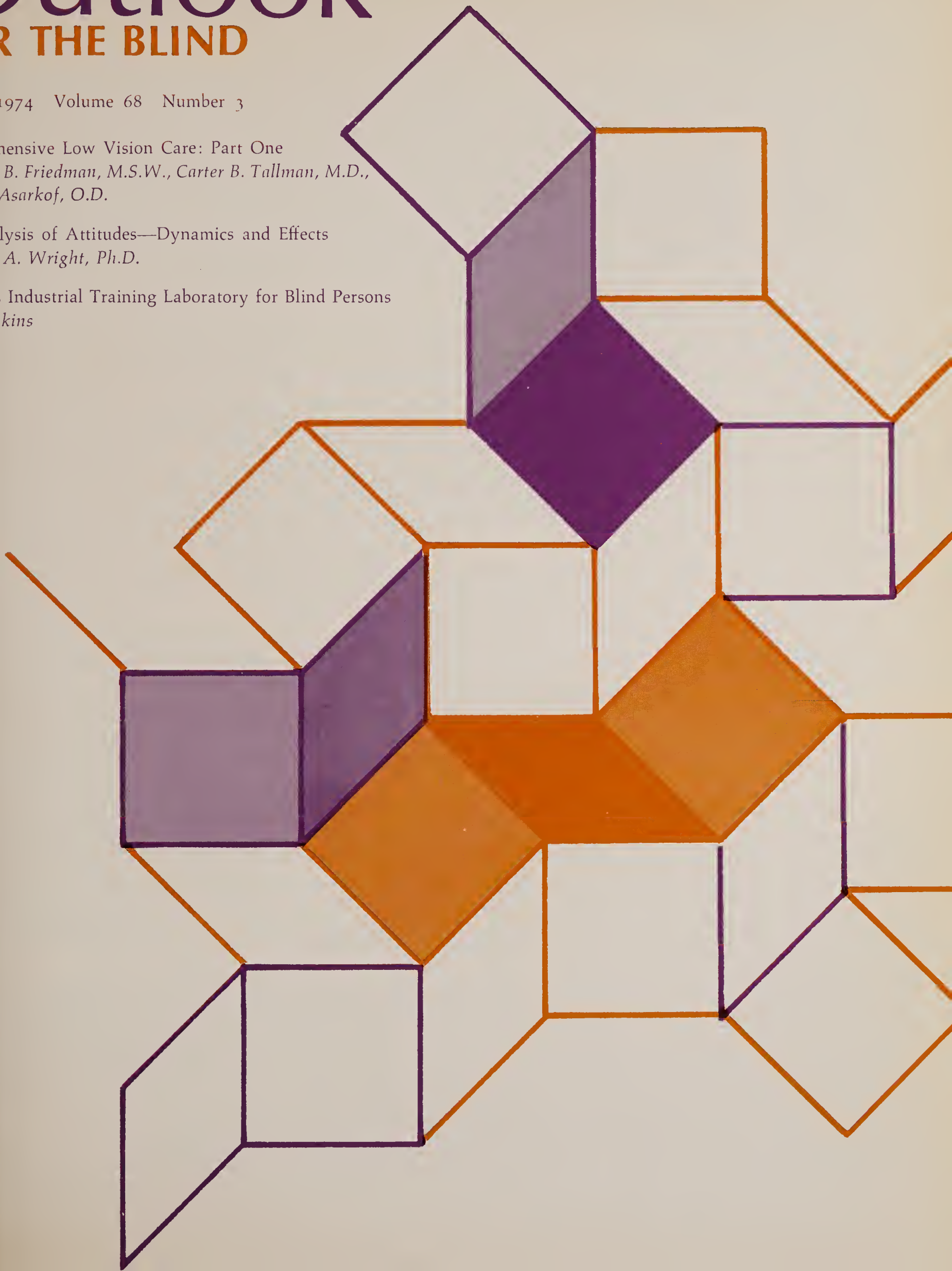
Outlook FOR THE BLIND

March 1974 Volume 68 Number 3

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Articles

97 Comprehensive Low Vision Care: Part One
Dagmar B. Friedman, M.S.W., Carter B. Tallman, M.D., John E. Asarkof, O.D.

104 Professionalism in Mobility
Michael P. Corbett

108 An Analysis of Attitudes—Dynamics and Effects
Beatrice A. Wright, Ph.D.

119 Florida's Industrial Training Laboratory for Blind Persons
Len Hoskins

124 Prognostic Factors in the Visual Rehabilitation of Aging Patients
Alfred A. Rosenbloom, O.D.

128 Business Enterprises Education Program: A Course for Supervisors
Robert P. Clark

Departments

135 Hindsight

137 Review—*The Meaning of Blindness*

139 Current Literature

143 In Brief

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Comprehensive Low Vision Care: Part One

ABSTRACT: The program of vision rehabilitation at Boston University Medical Center is described. From July 1970, to July 1973, 1,000 patients were seen by a multidisciplinary staff of ophthalmologists, optometrists, and social workers. The staff, using an array of optical, mechanical, and electronic devices, plus additional professional consultation, made possible through the cooperation of state and voluntary agencies, focused their attention on the specific visual problems of the patient and the associated psychological, social, and economic difficulties which limited his activities. Teaching professionals and the public about the problems of the visually impaired person, the techniques of vision rehabilitation, and the availability of low vision services is included in the clinic program.

DAGMAR B. FRIEDMAN, M.S.W.
CARTER B. TALLMAN, M.D.
JOHN E. ASARKOF, O.D.

Ms. Friedman is administrative director, Dr. Tallman is medical director, and Dr. Asarkof is optometric director of the Vision Rehabilitation Clinic, Boston University Medical Center.

The Vision Rehabilitation Clinic utilizes an interprofessional and interagency approach in the delivery of low vision services to individuals whose visual impairment cannot be restored by medical or surgical therapy or by conventional optical correction. Ophthalmologists, optometrists, and social workers participate jointly in a multidisciplinary rehabilitation program to treat the patient's visual disability as well as the psychological and socio-economic difficulties that can limit his functioning. Clinic staff come from the University Hospital, the Massachusetts College of Optometry, the Massachusetts Commission for the Blind, and the Massachusetts Association for the Blind. The administrative responsibility for the program rests with University Hospital.

Program Goals

☐ The program has four goals: 1) to enable each patient to attain maximum use of his visual capacities so that his life may continue as normally and productively as possible; 2) to provide special training in vision rehabilitation to residents in ophthalmology and students of optometry, and to provide field work experience for graduate students in social work and rehabilitation counseling; 3) to conduct an educational program to increase the understanding of professionals and the public about the problems of the person with low vision and about the clinic's services; and 4) to engage in research to develop new devices and techniques that will allow the patient more effective use of his limited vision.

Cooperation and involvement

The original presentation of the "OSTI Report" in 1968 (Organization for Social and Technical Innovation, 1971) suggested the overwhelming need for ophthalmic and optometric cooperation and involvement in vision rehabilitation care. This report, along with the works of Hoover (1967), Finestone and Gold (1959), and Cholden (1958), suggested improvement in the ability of ophthalmologists to explain to the patient both his condition and the options

The program of the Vision Rehabilitation Clinic was made possible through the generous support of Grant #25-65082/1-03, 1970-73, and Grant #36-P-05150/1-02, 1972-75, of the Rehabilitation Services Administration, Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare.

available to him and to refer him knowledgeably for services. The "OSTI Report" (1968) further urged the integration of the ophthalmologist and the optometrist into the blindness system so that low vision help could become, with coordination and cooperation, more effective and more widely available.

History

☐ Late in 1968, the Vision Rehabilitation Clinic, at the request of Ephraim Friedman, M.D., then ophthalmologist-in-chief of Boston University Medical Center, began to provide low vision care to an increasing number of macula patients with serious visual loss. The response to the low vision service by the patients and the interest in the fledgling service by the regional consultant of the American Foundation for the Blind, Ms. Marie Morrison, brought the first expansion. Ms. Morrison introduced our clinic staff to the Massachusetts Association for the Blind; a joint program of the Massachusetts Association and University Hospital began in 1969 and continued until July 1973. Our first months together were spent observing the low vision clinics in the Northeast. Much gratitude is owed to staff at the New York Association for the Blind--especially Eleanor Faye, M.D., through her book (1970), the Industrial Home for the Blind, the Rhode Island Association for the Blind, and the Cleveland Society for the Prevention of Blindness for their assistance and encouragement in helping us get started.

Expansion

In 1970 the clinic expanded from one-half day per week to five days per week. In 1971, under Howard M. Leibowitz, M.D., ophthalmologist-in-chief, the clinic moved to new quarters and became part of the Gundersen Eye Clinic, a comprehensive, total eye-care service. Professional interest and expertise increased, and in 1972 the program developed a cooperative training program with the Massachusetts College of Optometry. The Massachusetts College of Optometry also developed a low vision service patterned after the University Hospital Clinic. By July 1973, more than 1,000 patients had been seen in the low vision clinic.

Maximum Use of Remaining Vision

☐ In order to obtain maximum use of his remaining vision, each patient must begin to assume greater responsibility for his own rehabilitation. Too often this responsibility is taken from the patient by an "expert" who makes all critical decisions. We feel that the "expert" and the patient must assume responsibility jointly. Each patient must understand his diagnosis and his prognosis. He must be told the truth about his condition whenever possible, since understanding the diagnosis is the necessary first step for any patient in accepting his visual impairment (Cholden, 1958). Once the patient understands his diagnosis, he can begin to make crucial decisions as to what rehabilitation help he wants.

Patient responsibility

Each patient must decide for himself what he wants to see with his remaining vision. The staff cannot decide for him, nor can family, friends, or rehabilitation agencies. For example, what are his professional, recreational, or social goals? Does he want to read books, periodicals, his own mail, or to sign his checks? Does he want to watch television, read bus signs, view sporting events? Does he have special problems at work, at school, or at home? The staff can provide skilled help and information to the patient so that he can make appropriate decisions and use help wisely.

Loan-exchange system

A loan system, established along the lines of the one at the New York Association for the Blind, enables patients to experiment—at home, on the job, or at school—with different devices to determine their effectiveness and to anticipate possible problems. Such a system helps to keep patient and staff expectations realistic. Different lighting tried at the clinic is followed up at home, at school, or at work. Devices given for employment possibilities often require the cooperation of a vocational counselor from the Massachusetts Commission for the Blind or the Massachusetts Rehabilitation Commission. Also in use is an exchange system whereby the initial device loaned to the patient can be exchanged for another without additional cost when visual changes occur frequently, as in diabetic retinopathy.

Staff and Consultants

☐ The staff of the clinic includes two board-certified ophthalmologists, one acting as medical director; four certified optometrists, one acting as optometric director; three social workers, one serving as the administrative director; and an administrative assistant. All staff work on a part-time basis with the exception of the administrative assistant who works full-time. The staff utilizes various consultants available within the medical center, as well as the services of the Massachusetts Commission for the Blind, Massachusetts Rehabilitation Commission, Massachusetts Association for the Blind, Carroll Rehabilitation Center, Perkins School for the Blind, the state's Department of Special Education, Protestant Guild for the Blind, and others. This interprofessional cooperation enables our program to be more effective and far reaching.

Schedule and referral

The clinic is open five days a week, Monday through Friday. Patients are seen by appointment only. Referrals to the clinic may be made from private physicians, social service agencies, public school systems, agencies for the visually handicapped, families, or by the patient himself.

Eligibility

Any person with a serious visual loss may be seen at the clinic. Patients can be any age and need not be legally blind. Persons with visual acuities from 20/50 to 2/200 have been helped. If an individual can identify forms or objects, there is hope for some help at the clinic. Each patient must have had a medical eye examination within the previous six months and must request that a copy of the results be forwarded to the clinic prior to the first visit. If such information is not available, the clinic can arrange for an eye examination. For their first visit, patients are requested to bring with them any eye glasses, magnifiers, or other aids previously used.

Fees and financial aid

The established fee for professional services covers all visits to the clinic for a period of six months. Thereafter, a charge is made for each visit. By charging a fee to cover a series of visits rather than for each visit, a patient can use our service according to his particular need and not according to his pocket book. We have found that the greatest out-of-pocket expenses fell on those under 14 years of age and those over 65 years—those least able to pay. Our clinic attempts to equalize payment for all groups and we make provisions for financial assistance when necessary. We have working arrangements with private and public agencies to minimize any financial hardship for the individual. Whenever possible, the clinic will arrange payment from any health insurance the

patient has. Charges for visual aids are also adjusted to the patient's financial situation, and special help is always available. No one is refused service for lack of funds. Our goal is to treat all patients with dignity.

Clinic Procedure

☐ Once the appointment is made, the patient's social worker contacts the patient and explains the clinic's procedure and determines if there are transportation or mobility problems getting to the clinic. This same social worker meets the patient on his first visit and begins evaluating the patient's visual problems as they relate to his total needs.

The doctor sees the patient after a discussion with the social worker and, through careful visual examination, determines the amount and condition of remaining vision. A continuous process of examinations, counseling, trial of aids, and training ensues until the proper devices are found. Our devices vary from simple hand magnifiers to complex closed-circuit television systems. Many devices must be designed and built to fit individual needs. The patient may require from one to six (or more) visits; the same doctor and social worker see the patient each visit. A follow-up appointment, scheduled from one to six weeks after a device is prescribed, ensures that all is progressing well and that the patient has the necessary devices to fit his needs.

Follow-up

When indicated, we refer patients to state and/or private agencies for additional help, such as job training, mobility training, financial assistance, or volunteer help. We register legally blind patients with the Massachusetts Commission for the Blind. Once the follow-up appointments are successfully completed, we place each patient's card in a rotating file for automatic yearly follow up. Patients return, however, whenever they need additional aids or counseling.

Teaching Program

☐ In 1972 the clinic initiated a complex teaching program for residents in ophthalmology, students of optometry, and graduate social work or rehabilitation counseling students. The resident in ophthalmology spends one-half day a week for three months in the clinic. He learns the importance of providing a patient with truthful information about his condition, the first step in the rehabilitation process (Cholden, 1958). The young ophthalmologist must then go on to offer hope to his patient for a meaningful and independent life with limited vision. This hope can be given only if the ophthalmologist has a thorough understanding of the agency services available to help the low vision patient, as well as personal knowledge of the accomplishments of persons with limited vision.

Optometry students

Two fourth-year optometry students from the Massachusetts College of Optometry are in rotation at the clinic four days per week and two other optometry students are in rotation at the Massachusetts College of Optometry Clinic. In addition, the optometry students have the opportunity to observe ophthalmology residents in routine ophthalmological examinations. Over lunch or at the conference table, the optometry student and the ophthalmologist, along with the social worker, have a chance to exchange information and learn from each other. Effective low vision care means close cooperation (not competition) among them all.

Social work student

The first-year graduate social work student spends two days per week in

the clinic for eight months and participates in the total evaluation, supportive counseling, and appropriate referral and follow-up care. Part of the learning centers around the student's understanding of his feelings about low vision, blindness, and death. Because many of our patients are seriously ill diabetics, the multitude of medical, psychological, and economic problems can be dealt with only if the helping person comes to terms with his own feelings and attitudes and focuses his activities on the needs of the patient. Patients require an ample amount of time to talk about their problems, feelings, hopes, fears, and disappointments.

Interaction with staff

All students attend regular staff conferences and are required to present cases at these conferences. Effective vision rehabilitation care means continuous cooperation and coordination among the clinic staff and the various community agency staffs. As their schedules permit, students attend conferences and programs offered by other agencies and institutions serving the visually handicapped person. The interaction of questioning students with their instructors helps to point out shortcomings in the program and thereby to improve quality and effectiveness. By training students we are also increasing the pool of professionals trained in vision rehabilitation.

Professional and Public Education

☐ Educating practicing professionals and the public is essential. The staff participates in seminars and conferences with ophthalmologists, optometrists, peripatologists, social workers, counselors, teachers for the visually handicapped child, and various other public and private agency personnel. A two-day course for ophthalmologists and optometrists is being planned by the clinic staff to encourage greater professional interest and skill in low vision care.

Films

Two 16-mm, sound, color motion pictures, *Low Vision: The Edge of Sight* and *George's Story*, produced for the clinic are available for loan or purchase. *Low Vision*, which is 30 minutes in length, relates the difficulties of four low vision patients and shows the resolution of some of their problems through help from the clinic. The second film, *George's Story*, is 17 minutes in length and is a personal account of one patient's struggle with a deteriorating genetic condition which he thought had stabilized. (The production of this film was made possible by a supplemental award from the U.S. Social and Rehabilitation Service and an award from the American Optical Corporation.) These films were produced to increase the awareness of professionals and the public about low vision problems and low vision services.

Data collection

Epidemiological and related data pertaining to our clinic population is recorded on computer tape. The development of clinical and laboratory research capabilities aimed at providing better instrumentation and improved methodology for the rehabilitation and subsequent functioning of the visually handicapped person is an important objective of this expanded program. A closed-circuit television reading aid was developed by Philip J. Davis (1973) of the Massachusetts Commission for the Blind in conjunction with the clinic staff.

Additional material describing the statistical analysis of our patient population and additional developments in our program will appear in the second part of this article.

Case Histories

☐ 1. K is 18 years old with high myopia. When first seen in the Vision Rehabilitation Clinic he was a resident of a state school for the mentally retarded. An ophthalmology resident discovered that he was not retarded, just visually handicapped. He was seen in the clinic for evaluation and counseling and was prescribed telescopic glasses with a reading cap. Follow-up evaluation of K shows a dramatic change in his life as a result of counseling and the use of low vision aids. K left the institution for the retarded and now lives in a halfway house. He is a paid trainee in a workshop. He has learned to run a cash register and an adding machine and belongs to a bowling league. His counselors feel that he will eventually be completely self-supporting. The tragedy of this case is that all this counseling and low vision help should have been given to K in early childhood.

Graduate student

2. R is a 27-year-old, legally blind, married graduate student with retinitis pigmentosa and developing cataracts. His corrected visual acuity in the right eye is 20/40 and in the left eye "counting fingers." Peripheral vision is less than ten degrees. R came to the clinic complaining of headaches, blurring and fuzzy vision, severe night blindness, difficulty crossing streets, and anxiety and fatigue especially concerning his school work and earning a living. He did not understand his diagnosis or its progressive nature and had never really discussed it with anyone, including his wife.

We registered R with the Massachusetts Commission for the Blind and requested that he be evaluated for a scholarship and a monthly stipend. We referred him for genetic counseling. We gave him information about his disease and an opportunity to express his fears and anxieties and to ask questions. We gave him a bar magnifier for reading and a telescope for viewing the blackboard, street signs, buses, and sporting events. We arranged for him to receive talking books in his field of study to relieve some of the required reading. Ultimately, we prescribed a closed-circuit television reading system. R has now completed course work leading to his Ph.D., maintaining nearly an A average. He is knowledgeable about his disease and is planning a career in teaching.

Ten-year-old boy

3. Robby, age ten, is a bright, alert boy with congenital bilateral optic atrophy with nystagmus. He was referred to the clinic by his special education teacher who had noted that although Robby was learning braille, he could also read large print material. Following his clinic evaluation, Robby was given a Sloan illuminated hand magnifier, a telescope, and a folding pocket magnifier. With low vision aids, counseling, and the freedom to move in the classroom as needed, Robby stopped braille instruction and returned to the regular classroom on a full-time basis. He is doing well.

80-year-old man

4. T is 80 years old. He was referred to the clinic by his ophthalmologist in Maine. T has a diagnosis of macular degeneration. His vision in the right eye was 2/400 and in the left eye 10/137. He had been unable to read for the last five years. With an illuminated hand magnifier, he can read his own mail and attend to his bills. With a telescope he can watch television and travel independently. A small pocket magnifier enables him to shop independently.

Assessing Effectiveness

☐ In developing our program of vision rehabilitation, we have been cognizant

of Robert Scott's book, *The Making of Blind Men* (1969). Noting that a person views himself from the point of view of his family, his friends, his doctors, his community, and society, we have particularly tried to be aware of our own feelings and attitudes about blindness and illness. We have tried to make the patient's needs our prime concern and to give our patients the needed confidence to rebuild their lives. Our effectiveness with each patient can probably be assessed by how well our patients have understood their diagnoses, been able to formulate their needs, and assumed responsibility for their own rehabilitation, and by how well we as a team were able to focus our services and those of other community agencies on the patient's particular problems. We also agree with Scott (1969) that agencies serving the visually handicapped must do more than inform the community of our services—we must also teach professionals and the public.

Acknowledgement

The authors wish to acknowledge the particular help of John J. Szufnarowski, associate regional commissioner, Social and Rehabilitation Service, U.S. Department of Health, Education, and Welfare, Region I—Boston, for his invaluable support and guidance in the development of our Vision Rehabilitation Clinic.

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Part Two of this article will appear in the June 1974 issue of the *New Outlook.*

Professionalism in Mobility

ABSTRACT: To increase the professionalism of mobility instructors and to improve practice, the following areas need to be considered and discussed more fully than they have in the past: a forum for dialogue and dissemination of information, a central resource for information, public relations materials explaining cane mobility, a means of identifying the professional, liability of the instructor, greater attention to clients' individual differences and keeping practice up to date, interpersonal aspects of instruction, and professional responsibility.

MICHAEL P. CORBETT, M.A.

Mr. Corbett is an orientation and mobility consultant with Indiana Rehabilitation Services, Indianapolis.

Code of Ethics

The helping of another human being involves ethical considerations, whether written or not. Until the publication of the "Orientation and Mobility Code of Ethics" (1973) in the *Long Cane News*, there was only C. Warren Bledsoe's "Credo" (1972), a few historical guidelines, and "accepted practice" to guide the professional in carrying out his duties. The new code provides an expanded and responsive framework for the practitioner of mobility instruction. It is hoped that mobility instructors will see fit to adopt the code, in some form. Although it is possible to have many definitions of professionalism, it is not my intention here to search out a final one. We have the example set by doctors, lawyers, and others. And, in any event, there are many reasons for increasing our professionalism: it helps us to serve our clients better, to be more efficient, to identify the profession, and to organize the profession better.

In addition, the formation of state-wide and multi-state interest groups is an important stride forward in the direction of professionalism. But, we might ask at this point, what more can be done? Discussed below are several ideas that might be considered. There are many more things that can be done, if those of us in the field can only be made aware of them. The comments, criticism, and endorsement of readers are solicited.

A Forum Is Needed

☐ 1. *A forum for dialogue and dissemination of information.* The vehicles which come to mind are the *Long Cane News* and the *New Outlook*. The *Long Cane News*, through the concerted efforts of Boston College and Western Michigan University, has been doing an admirable job of providing up-to-date information in the field. A worthwhile addition would be more space for mentioning particular problems and for sharing professional information, such as effective ways that have been found for teaching certain skills, precautions one should take with different types of individuals or situations, etc. We need to share "tricks of the trade," especially since there is so little written on the teaching of mobility. The best mobility instructors in the world are alive today and we must take advantage of their great fund of knowledge; otherwise we will find ourselves continually reinventing the wheel. A number of short paragraphs from different contributors would enable instructors to pick up many tips from each issue. This would, of course, be dependent on the contribution of those

ideas. The *Long Cane News* has in the past solicited this type of correspondence and we should use the opportunity.

A central information resource

2. *A central resource for information on orientation and mobility and related fields.* Relative to other professions, there are few references on mobility. Those that do exist, however, need to be made available. The American Foundation for the Blind (AFB) is presently the source of some reference material, but if, in the case of a particular client or circumstance, one needs to read extensively on hearing loss, multiple disabilities, related fields, or merely to expand one's professional horizons, it can be difficult and/or time-consuming to locate this information. Outright purchase of such material can be expensive and, in the long run, impractical.

A lending library operated by mail, similar to the Library of Congress Talking Book Program, could provide all kinds of literature to those in the field, including books, research reports, copies of articles, etc. A sponsoring agency is needed for this; perhaps the American Association of Workers for the Blind or another organization may wish to investigate setting up such a program.

Public Relations Materials

☐ 3. *Public relations materials on mobility.* There is probably not one instructor who has not fumbled for words or had an uneasy feeling when asked to describe what kind of work he does. It is difficult to describe mobility in a sentence or two and convey an adequate idea of cane travel. The word "peripatologist" almost always requires an accompanying definition. Even when sighted people observe a mobility lesson in progress, it is difficult for them to comprehend what is going on. For example, during a particularly trying lesson one day, a passerby stopped to observe. After much discussion about route and technique, the client finally began his route. The passerby then asked and received a complete explanation of what mobility with a cane is, and what was going on. "That's real good," he said, "but when does he get his dog?"

Films and printed materials

It is clear that a selling job is needed for prescription cane mobility. It needs to be recognized as a specific type of travel in and of itself, in the same way that dog guide mobility is. Many national and local organizations have done a great deal to enlighten the sighted public. Films are available through AFB and other sources that add to the fund of public information. The peripatologist is also often called upon to give speeches and presentations on mobility. Since it is possible to spend more time in this type of activity than is in fact available, the time that is spent should be used as effectively as possible. For an instructor giving a presentation, a film obviously gives the clearest idea of what mobility with a cane is. A full-length film, suitable for national syndication on TV and in theaters, showing the trials, tribulations, and triumphs, in the vein of "Happy Forward," is needed. When it is not possible or practical to use a film, printed materials and a demonstration are often used. Until recently, there was no brochure available which depicted cane travel well. AFB now has available a booklet, entitled "How Does a Blind Person Get Around?" which explains all the means that blind people use to travel. Much of it concerns cane travel and it should prove an excellent aid in educating the public. While not available in quantities large enough to distribute wholesale to audiences, its use can add

meaning, depth, and clarity to the specialist's presentation. Rehabilitation teachers also would benefit from a similar brochure showing closeups of various aids and skills in use. Increased public knowledge will benefit those blind persons who travel, those who never heard of mobility, and us, as professionals.

Professional Identification

☐ 4. *A means of professional identification.* One way of allowing a professional to identify his colleagues, whether by written communication or in any other circumstance, would be to allow the certified or provisionally certified instructor to affix two or possibly three letters after his name, attesting to his certification. With persons entering the field by various avenues nowadays, the suggested measure would help to distinguish those who are certified. Although it may be argued that M.A. or B.A. could be used, neither indicates the field of study. Rehabilitation teachers may also wish to consider such a measure. Exactly what these two or three letters might be could lead to quite a discussion. AAWB Interest Group 9 may wish to consider a committee to investigate this.

Liability

5. *Liability of the instructor.* Ordinarily a mobility instructor is provided liability coverage by his employing institution, but further information is needed on the potential liability on the job and in private practice. Many questions can be raised: Would volunteers accompanying a client on a route be held liable? Does the instructor's liability end with the last lesson? What part does homeowner's and auto liability coverage play, if any? Is there a company which could make professional liability insurance available to those instructors who desire it? In these days of more and more lawsuits for malpractice, a word to the wise should be sufficient.

Practice

☐ 6. *Greater attention to individual differences in clients.* This is an area in which we must continually scrutinize our behavior: Am I allowing for the differences in clients? Is my frustration showing? Am I too superficial? Am I mainly concerned with just getting through the lesson—or seeing that the client learns something? There are, of course, a host of other questions.

Individual instruction

Aside from personal aspects, is there a tendency to offer essentially the same program to each client regardless of what his personal needs are? Does everyone need the same emphasis in his program of instruction? Granted, the client should be exposed to all types of travel situations, and we should develop flexibility and adaptability by exposure to different problems, but each person is different, and as such, requires different program emphasis. In other words, to what kind of life will this person be returning? What will his travel needs be in later years? It may be painfully obvious that a 17-year-old's program should be different in certain respects from that of a 55-year-old rural dweller. Too often, however, there is actually little difference in the program of either. The travel-training prescription should fit the client's needs. Although we cannot possibly teach every conceivable situation that may arise, we can emphasize the part of the program that fits the life style to which the client is returning or to which he is accustomed, and develop his adaptability and flexibility for the unknown situations ahead. Adjustment of the travel-training program to individual and home needs, variety in travel experiences, and changing with the times should

be paramount considerations in the continuing assessment of our travel programs. We should make every effort to see that these provisions are met, if they are not already.

Indoor mobility

In addition, since most of our waking hours are spent indoors, do we really pay enough attention to sharpening indoor travel skills, or do we give them a cursory examination so as to hurry to the main course: outdoor travel? Do we teach different indoor environments in order to develop flexibility and adaptability, or are we limiting ourselves to too few indoor environments?

Staying up to date

Is mobility changing with the times? It is estimated that 44 percent of all shopping is done at shopping centers; in ten years it will be over 50 percent (Kagiln, 1973). Is this an area which is receiving needed emphasis in our programs? Exposure to different shopping centers could help create the adaptability needed to cope with those in the home environment. Each year more people are using air transportation and air terminals which offer a myriad of training possibilities. Does this area need inclusion or additional emphasis in our programs? Training for such new situations is needed.

There are many things we can learn from the medical profession. Are we prompt and thorough in the recording of progress after lessons? Are we thrifty with our time? Do we strive for objectivity? The well-being of a client, and his eventual ability to function in his environment is as dependent on the specialists serving him as on his physician. Doctors have found that telling the patient *why* a treatment is needed increases his motivation and cooperation. Showing value—telling why—can do the same for mobility. Are we explaining our lessons fully?

Interpersonal Aspects

☐ 7. *Emphasis on the interpersonal aspects of mobility.* The teaching and learning of mobility is irrevocably contingent on the proper meshing of at least two possibly very different personalities. It is the instructor's responsibility to ensure that this takes place to the benefit of the client. It would be well to immerse ourselves in the study of what makes people tick, particularly ourselves. What makes us instantly like one client and dislike another? Why do we dread the lesson with one client and find the next most fulfilling? Are we penalizing a client for not having the ability we think he should? Is it another reason? What can we do about it? A study of our inner selves will help.

Studying human behavior

Since mobility is a personal experience, do we not need more emphasis in professional preparation on human behavior, psychology, and the like? Are we overemphasizing the mechanical aspects of mobility? Would not instructors be better prepared to deal with other humans if more emphasis were given to this area in their training?

Professional responsibility

8. *Professional responsibility.* There are certainly those instructors who will not concur with some or any of the ideas presented above and, admittedly, there are more questions than answers. Some instructors may see themselves as technicians or teachers, rather than as professionals. Likewise, there are probably doctors who see themselves as mechanics concerned with the human body, rath-

(Continued on page 123.)

An Analysis of Attitudes—Dynamics and Effects

BEATRICE A. WRIGHT, Ph.D.

Professor Wright is with the Department of Psychology, University of Kansas, Lawrence.

ABSTRACT: Several cognitive factors are singled out because of their strong influence on the way in which the abilities of blind people are perceived, namely: the spread phenomenon, position of the observer, expectation discrepancy, restricting environmental opportunities in accord with expectations, attribution to person versus environment. In the affective area, negative emotional factors (pity, fear, uneasiness, guilt) and positive emotional factors (genuine sympathy, respect, appreciation, warm interpersonal relationships) are discussed. Ambivalence (the presence of both positive and negative components) is seen as contributing to the variability of behavior toward blind people. Finally, guidelines for the improvement of attitudes and environmental opportunities are outlined. Of special significance for the education of the public is the approach based on the coping framework as opposed to the succumbing framework. Integrating blind persons with sighted persons into as many activities as possible is supported. The vigorous engagement and leadership in programs for the blind by blind people working collaboratively with sighted people are also stressed.

Blindness and Blind People

Attitudes toward blindness. Attitudes toward blind people. It is correct to assume that the former affect the latter, but still there is a great difference between the two (Whiteman & Lukoff, 1965). Attitudes toward blindness are essentially negative. Only when the focus is blind people do positive attitudes emerge. It is the context of *people* that is important and that gives rise to the fact that attitudes toward blind people are more correctly characterized as ambivalent.

Generalizability of factors

There are important cognitive and affective factors that influence attitudes toward blind people. Although I shall discuss each separately, it should be understood that the cognitive and affective influence each other. My focus is on attitudes of the sighted majority, but the principles abstracted to account for them are general ones and apply to the attitudes of blind people as well. In fact, these principles are not limited to blindness at all. They are, rather, so general that all of us are subject to them, both as targets of other people's perception and as observers or judges of other people. And since each sighted person can also be categorized in terms of one or another characteristic that may be regarded as a lack, or inadequacy, or stigma, the sighted as well as the blind have much to gain by being aware of the cognitive and affective factors that interfere with the actualizing of human potential. The analysis of these factors also leads to certain conclusions for action that can be taken to enhance the life opportunities of blind people.

Cognitive Factors

☐ Cognition refers to processes by which the world is intellectually grasped

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and understood. It includes perceiving, judging, and reasoning, although the conclusions made or knowledge gained are not necessarily rational or accurate.

One of the most harmful attitudes is that blind people are very much limited in what they can do. It is a harmful attitude because it deprives blind people of opportunities on an a priori basis by unnecessarily restricting what they are allowed or encouraged to do. A number of cognitive factors underlie this exaggerated perception of limitation.

The spread phenomenon

One important factor is the human tendency to draw inferences about a person based on a single, prominent characteristic of that person. This tendency has been designated the *spread* phenomenon (Dembo et al., 1956; Wright, 1960). Specifically, the properties of the single characteristic tend to be imposed on other characteristics of the person when these other characteristics are actually unknown to the observer, or are in the periphery of attention, or are unclear for other reasons. The blind person is not only seen as being visually limited, but the idea of disability is also extended to his hearing, general health, emotional maturity, etc. That is to say, the spread phenomenon operates to underrate the abilities of the blind person in general. To be sure, other factors may operate to counteract spread, but in the extreme case the blind person is perceived as being extraordinarily incapacitated and dependent on others. This occurs when the person's blindness is in the center of focus and the person and his blindness are made co-extensive. In this case, the negative evaluation of blindness spreads to the total person.

It should be understood that the phenomenon of spread is not limited to physical disability. It is a general law of human perception that an observer will make wide-ranging judgments about a person on the basis of a single characteristic, especially when that characteristic is viewed as salient and the person himself is little known. Thus, it is common to make unwarranted inferential leaps about a person on the basis of the single fact of his sex, religion, nationality, and so on.

Position of the observer

A second factor leading to the exaggeration of incapacity stems from the vantage point of the sighted person. Not having had to cope with blindness directly, he imagines what it must be like to live in a dark world. And these imaginings spell catastrophe. But simply grafting blindness on to a sighted life, without the person having had to learn the skills needed to accommodate to the new circumstances, without his having gone through the difficult adaptive process of adjustment, and without his family and friends having also become engaged in the learning process, leaves the sighted person ill-equipped to appreciate how fully and satisfactorily life can be lived with blindness despite major problems. In short, problems and limitations dominate the imagination because of the sighted person's inexperience and lack of knowledge.

The perspective of the sighted person feeds into the overextension of limitation in yet another way. Conceptually, the sighted person is in the position of an outsider (Dembo, 1970). What often strikes him as he views a blind person or thinks of blind people in general is the blindness. It becomes the salient fact that is felt to distinguish blind people from other people. Thus the spread phenomenon finds fertile soil in the perspective of the outsider.

The blind person, on the other hand, being blind himself, is in the position of the insider. As the insider, he sees his life as being far more differentiated than implied by the fact of his blindness. Besides being blind, he may be a spouse, a parent, a worker, or a teacher. He knows himself as a person who has special interests, beliefs, goals, and personality traits, only some aspects of which are felt to be connected with his blindness.

Fitting perceptions to expectations

A third factor that helps to account for the persistent attitude that views blind people as more dependent than they are or need to be can be understood in terms of the phenomenon of expectation discrepancy (Wright, 1960). When a person's expectations are not matched by reality, the discrepancy has to be resolved. He can accomplish this in several ways. One common way is to alter the manifest reality so that it accords with his expectations. That is to say, believing is seeing. Thus, a sighted person, so long as he is locked into the belief that a blind person can only fumble and stumble, will not notice evidence to the contrary; if forced to do so, he may consider the particular blind person's facile mobility as being an exception to the rule. In this way, beliefs and expectations remain intact. This form of resolving expectation discrepancy is more likely to occur when expectations are strong and contrary evidence is fleeting. Altering the manifest reality is one type of self-fulfilling prophecy that fixes notions about blindness.

Fitting environments to expectations

Another type of self-fulfilling prophecy that stereotypes attitudes about blindness is the coercive power of the environment actually to produce the kind of behavior that fits the beliefs and expectations of those who control that environment. That is to say, expectation of limited ability can be verified by a reality that has been shaped in terms of those expectations. This effect has been widely publicized in the work of Rosenthal (1968) and others. So long as their abilities are under-estimated, blind people will be directed toward limited training and educational programs. Environmental accommodations that would enable blind persons to function at higher levels and in more complex settings will not be considered, and employers will continue to reject blind applicants except for stereotyped employment. Again it is well to remind ourselves that imposed environmental barriers are not limited to problems of physical disability. That environmental limitations limit the ability of poor children, non-white children, and mentally retarded children is well known. Perceived as having limited abilities, these children continue to be deprived by environmental barriers to their development which are justified in terms of their presumed deficiencies.

Attribution

A fifth factor that contributes to undervaluing the abilities of the blind on the part of the sighted involves the cognitive process of "attribution," a process which concerns the source, cause, or characteristics ascribed to an event, problem, or person (Heider, 1958). As applied in the present context, problems faced by blind people can be seen as stemming primarily from properties of the person or the environment. The interesting fact, supported by research findings, is that the outsider is more likely to attribute the source of difficulties to the person being judged than is the insider, whereas the reverse is true in the case of environmental attribution; that is, the insider is more likely than the outsider to indict the environment (Jones & Nisbett, 1971).

This difference in environmental versus person attribution can partly be understood in terms of the coping orientation of the insider. The insider is forced to become environmentally oriented as he strives to manage and modify the physical and social world in order more adequately to meet his needs. The outsider, on the other hand, does not ordinarily focus on the environment as he views another person. What draws his attention is the behavior of that person, and since the behavior "belongs" to that person, as it were, the observer seeks properties of the person to account for that behavior. Thus it is that the outsider is more likely than the insider to attribute any real or imagined lack of accomplishment of the blind person to limitations inherent in being blind. The blind person in comparison to the outsider, on the other hand, is more likely to feel that major sources of trouble reside in the physical and social environment. This orientation toward the environment provides a strong basis for encouraging involvement on the part of blind people in action programs directed toward improving their situation.

These five factors significantly influence the social perceptions of the sighted with reference to blind people. The social perceptions shape and maintain the negative attitudes about the competencies and independent action potentials of people who are blind. Thus, the limiting and devaluating attitudes do not necessarily arise from malevolent intent on the part of the sighted (although they can be used to support less than lofty motives). They are the products of the way in which human beings make inferences about other people in general, a field known as person perception in psychology.

Fortunately, there are cognitive forces that serve to offset those that lead to underestimating the abilities of blind people. The two that follow are alternative ways in which expectation discrepancy is resolved.

Expectation revision

Expectation discrepancy, it will be recalled, occurs when there is a gap between the observer's expectations and the presenting reality. We have already shown how that gap can be closed by misperceiving the reality so that it accords with the observer's expectations. There are times, however, when the reality is so clear and persistent as to be undeniable. It is then that two other ways are available to the observer to reconcile the expectation with the actuality. One way is to revise his expectations upward so that they more properly fit the evidence. Generally this is the process that blind people would endorse. They would like their capabilities to be appreciated for what they are. As for the sighted person, when he feels close to a blind person, when his feelings toward blind people are basically positive, then there is a positive wish force to revise expectations upward.

Anormalization

Another way to resolve expectation discrepancy is to anormalize blind people, to remove them from the laws of ordinary mortals by imbuing them with special powers to account for the fact that their performance surpasses one's expectations. Thus it is that the blind are felt to have a sixth sense to account for their mobility, their understanding, etc. Anormalization occurs when expectations about natural abilities resist change in the context of undeniable accomplishment. It may be questioned whether anormalization is a desirable outcome, but at least it works against underrating the abilities of blind people.

Thus far we have considered cognitive factors that influence the sighted person's appraisal of what the blind person can do. It is no small matter that the weight of the cognitive factors seems to pile up on the side of underestimating the blind person. This poses a special challenge for rehabilitation.

But a word of caution is in order. Recognizing that the capabilities of the blind person tend to be undervalued must not lead to a denial of real limitations. Real limitations must be taken into account in the effective adaptation of person and environment to the circumstance of blindness, even though we should remain open as to what those real limitations are (Wright, 1968). Instances where a blind person unnecessarily floundered because of denial of limitation or because of idolization of independence are not infrequent.

Affective Factors

☐ Besides cognitive factors, relationships between people are greatly affected by emotional factors. By affective or emotional factors we mean the feelings that move people toward or away from, or, in some cases against, another person. Common emotions are pity, fear, uneasiness, and guilt on the negative side; and on the positive side, respect, sympathy, appreciation, and warm human relationships.

Pity

Pity, in the sense of devaluation tinged with contempt, is rejected by the person being pitied. It occurs when sight holds such high status value that the sighted person comes to equate blindness with general inferiority of the person. Pity becomes especially apparent when the sighted person is so insecure as to seek the satisfaction of feeling superior.

Fear

Several kinds of fear on the part of the sighted majority may be distinguished. One fear that may be stirred by the presence of someone with a physical disability is that of one's own vulnerability to damage. This fear may be aggravated by the irrational feeling that one can "catch" the disability of another person, that interaction makes for contagion, as it were. These thoughts, being unreasonable, typically remain hidden from consciousness. Another kind of fear is associated with the possibility of becoming "responsible" for a blind person. The distorted perception of the limitations of blindness may make the anticipated relationship appear to carry with it an overwhelming burden of demand upon the sighted person's energies, a burden that he may be unwilling to assume. Parenthetically, we would like to point out that what is experienced as a burden necessarily involves values. Thus, some people avoid the "burden" of marriage or child-rearing, whereas others do not regard these estates as burdensome at all—even though they require considerable sharing of one's resources.

Uneasiness

A feeling of discomfort or uneasiness, rather than fear, may also interfere in the relationships between sighted and blind people, especially when the sighted person has had little contact with blind people. One basis for uneasiness is the sighted person's uncertainty as to how he should behave. He is unable to act naturally because of his own conflicts about blindness, because of his lack of understanding, and because the fact of blindness dominates his attention. He remains in the awkward position, for example, of wanting to help but being reluctant to offer, of not knowing how to help and being reluctant to ask the person. Here the blind person can do much to

ease the situation by referring to his own blindness in a natural way and by matter-of-factly instructing the sighted person as to how he can best be helped when the need arises. Another important source of uneasiness concerns nonverbal behavior in the communication situation, such as eye contact, nodding of the head, glancing away as one collects one's thoughts, etc. (Argyle, 1969). The sighted person makes use of these nonverbal visual cues in ordinary communication, both as the sender and receiver of information, although he is generally not conscious of them. When they no longer are functional in the give-and-take of interaction with a blind person, the sighted person may become vaguely ill at ease without realizing the actual basis of his discomfort. We know that over time the sighted person adapts to these new conditions, but whether knowledge of them would hasten the adaptation process is not known.

Guilt

Then there is guilt that the sighted person experiences when he is prodded by the moral injunction that he ought to accept and help someone whom he regards as less fortunate. He may try to abort guilt by avoiding situations that give rise to moral conflict. He may then engage in mythmaking to justify his behavior, as when he becomes "convinced" that the blind person couldn't function adequately in the situation anyway or would prefer not to be invited, or whatever. Or he may make abortive gestures toward acceptance and helping. Expiation of guilt is one motive that moves the public to provide protective legislation and special services for the blind, help that may be important, but which nonetheless avoids the problem of full social acceptance so long as these measures serve to segregate the blind. In one experiment on this problem, subjects were more willing to help a person with an eye patch than a person without one, but only when the helping did not entail continued social interaction (Doob & Ecker, 1970). It also should be emphasized that guilt may have the positive outcome of pressing the person to engage in relationships which then turn out to be satisfying.

The negative emotions that have been discussed were selected because they are commonly experienced. All of us, the sighted as well as the blind, have been the recipients of another person's pity, fear, uneasiness, and guilt for some reason or other. All of us, including the blind, have also been the agents or bestowers of these emotions with respect to someone else.

Genuine sympathy

Surely positive social-emotional relationships are as important as negative ones. Genuine sympathy, as opposed to pity, is a reality too. Genuine sympathy implies a recognition of difficulties imposed by blindness, a readiness to help as needed, and affection for the person himself. There is also genuine

Respect

respect for the blind person who manages well despite his handicap. This differs from sympathy, since the focus is on the accomplishments of the person rather than on his troubles. Paradoxically, the admiration may be enhanced by the very set of cognitive factors that lower expectations of what the blind person can do. From the vantage point of the sighted, it will be recalled, the blind person is often expected to be very much limited and dependent. When he is seen as moving about, earning a living, etc., he is admired for his accomplishments. Such admiration is not entirely a blessing

to a blind person, however, who would often rather have a greater appreciation of his actual abilities than admiration based on lowered expectations.

Inspiration

Earlier we referred to fear that may be aroused when a person is reminded of his own vulnerability. Fortunately, a more positive feeling may also be aroused. We may be grateful for and inspired by the courage shown by those who manage in spite of adversity for they stand as living reminders that we too may find that source of inner human stamina for our own personal trials. To be sure, thoughts of personal misfortune are sufficiently threatening that one generally does not linger over them. Although the thoughts may be suppressed, the feeling of appreciation and inspiration remain.

Warm relationships

Finally, warm person-to-person relationships between blind and sighted people who share similar values and interests, who enjoy common activities, and who work toward common goals, are frequent. Under these circumstances, blindness is an incidental factor, one taken into account when a specific need arises. Because the blind person is perceived as a highly differentiated person, his blindness as such is very much subordinated, and as such it loses its power to spread its properties and to limit or otherwise devaluate the total person. What dominates the relationship are the people involved and not the blindness of one of them.

Ambivalence

☐ It is apparent that in both the cognitive and affective spheres, conflicting forces abound, those on the one hand that limit the perceived abilities of blind people and are affectively negative, and those that support or enhance the perceived abilities of blind people and are affectively positive. Thus, both the cognitive and affective components of attitudes toward blind people potentially play a role in creating ambivalent attitudes.

Ambivalence itself has important implications. Ambivalence signifies conflict and it is the resolution of this conflict in different directions that contributes to the variability of behavior toward blind people. For example, a blind person may be excluded altogether from a school or place of employment because of the exaggerated perception of limitation, or he may be admitted like anyone else with or without provision of reasonable aids that make it possible for him to function most productively. Another consequence of ambivalence is what has been referred to as response amplification. That is, behavior toward an object of ambivalence tends to be more extremely positive or negative under certain circumstances than it would be toward a nonambivalent object. In one experiment, for example, white subjects reacted to both black and white stimulus persons who were ascribed either socially desirable or socially undesirable beliefs and values (Dienstbier, 1970). When favorable beliefs were assigned to both stimulus persons, the black person received greater acceptance than the white person, but when unfavorable beliefs were ascribed, the opposite outcome occurred. A third consequence of ambivalence has already been mentioned, namely the guilt that is aroused when the positive side of the conflict is neglected.

Response amplification

Our task now is to see how the preceding analysis can provide leads concerning ways to widen opportunities for people who are blind. One harsh

Coping	Succumbing
1. Emphasis on what the person can *do*.	1. Emphasis on what the person can*'t do*.
2. Areas of life in which the person can participate are seen as worthwhile.	2. Little weight is given to the areas of life in which the person can participate.
3. The person is perceived as playing an active role in molding his life constructively.	3. The person is seen as *passive*, as beaten down by difficulties.
4. The accomplishments of the person are appreciated in terms of their benefits to the person and others and not primarily depreciated because they fall short of some irrelevant standard.	4. The person's accomplishments are minimized by highlighting their shortcomings, usually in terms of "normal" standards.
5. The negative aspects of the person's life, such as the pain that is suffered or difficulties that exist, are felt to be manageable.	5. The negative aspects of the person's life, such as the pain that is suffered or difficulties that exist, are kept in the focus of the person's life. They are emphasized and exaggerated and even seen to usurp all of life (spread).
6. Managing difficulties, in one sense, means overcoming them or ameliorating them through the application of medical procedures, the use of prostheses and other aids, learning new skills, and environmental accommodations (social, legal, economic, etc.).	6. The disability represents such an unadjustable state that one must try to hide and deny it. Some kind of adjustment is possible only by acting as if it doesn't exist. Resignation is the only other alternative.
7. Managing difficulties *also* means *living on satisfactory terms* with one's limitations (although the disability may be regarded as a nuisance and sometimes a burden). Above all this means viewing the disability as nondevaluating and seeking satisfaction in terms of one's assets.	7. Whether or not the person is able to hide his disability, he is pitied.

TABLE 1
Characteristics of the Coping-Succumbing Frameworks

conclusion emerges: the abilities of the blind person are likely to continue to be underestimated by the public just because of its sighted vantage point. Seeing the situation from his own eyes, the sighted person can only imagine the helplessness and fright that would descend upon him should those eyes be taken from him. And yet, steady education of the public concerning the highly varied skills and interests of blind people can be expected partially to offset the perceived exaggeration of limitation.

The coping vs. succumbing framework

The coping framework, in contrast with the succumbing framework, provides a good set of guidelines for public education. These guidelines have been elaborated elsewhere and are recorded here in summary form in Table 1. Briefly, the succumbing framework notes only difficulties in the life of a blind person and elaborates on their dire consequences. The coping framework, on the other hand, regards problems in terms of how they may be ameliorated, circumvented, or lived with. The emphasis is on how a person with a disability can share in life's satisfactions by being an active participant in the solution of problems and by engaging in a range of activities. A telling example of the succumbing framework appeared in a magazine appeal to the public to have regular eye examinations. It depicted a blind man with tin cup, white cane, and a sign on his back captioned, "My days are darker than your nights." Catering to stereotyped notions of blindness, this appeal hardly serves the interests of blind people.

Besides being used to motivate people towards better health practices, scare tactics are sometimes used in fund-raising campaigns, presumably on the basis that the aroused pity will stimulate people to give. Organizations of

the blind and on behalf of the blind ought to challenge such approaches as being inimical to the interests of blind people. It is proposed that a consultation service be made available for reviewing healthcare and fund-raising appeals before they are released to the public. The Madison Avenue approach is not geared to thinking of the effect such appeals might have on the way the sighted person views blindness or the blind person his situation. The coping vs. succumbing frameworks offer a good set of checks in this area.

Consultation service

There are many good example of fund-raising appeals and news items that could be cited to illustrate the positive coping approach to public education. An excellent example, sponsored by the National Federation of the Blind, shows a blind man, with white cane, crossing a street by himself. The picture is captioned, "Stop—He's on His Way." The brochure then lists ten pointers for the sighted to keep in mind that will make casual relationships with the blind more comfortable. The suggestions are practical ones and come to the point quickly. For example, the first says, "I'm an ordinary person, just blind. Don't shout, or address me as if I were a child. Don't ask my wife, 'Does he take cream in his coffee?' Ask me."

Good examples

Good news releases expand the awareness of the sighted person as to the varied types of recreation and employment in which the blind person engages. Occasionally a kind of superstar may be depicted, but what is generally needed are accounts of all sorts of people fulfilling all sorts of non-stereotyped roles in which explanations are given for the few adaptations needed to meet the requirements of sightlessness. Instead of sentimentalism, the key idea is counteraction of stereotypy. It should be apparent that breaking through stereotypy is also important for some blind people who themselves view the blind in categorically limited ways, and for some teachers, counselors, and parents of the blind as well.

Counteracting stereotypy

Ways of breaking through restrictive role models have become part of general policy guidelines for affirmative action programs concerning women and other minority groups. A proposal drafted for one such program includes the recommendation that "in all recruitment publications, promotional brochures, help-wanted advertising, instructional films, and other publicity which visually depicts members of the University community, women and members of minority groups shall be pictured not only as students but also in positions of responsibility, such as supervisors, researchers, faculty, and administrators." In that document, the proposal is also made that "when seeking applicants [for employment], a statement shall be included in the text of the correspondence that minorities and women are encouraged to apply." Affirmative action guidelines ought explicitly to include the physically disadvantaged in extending its recruiting efforts. It also should be recognized that members of all disadvantaged groups need special encouragement to help expand opportunities and to take advantage of those that become available.

Affirmative action

Public education of the sort recommended here conveys the elementary notions that blindness limits people only in limited ways, that blindness as a single aspect of a person cannot usefully characterize or categorize people

Main points

for most purposes, and that modifications of environmental conditions can significantly reduce the handicap and expand the realm of economic and social functioning of the blind person.

Integrated services

There is still another approach to spreading the realization that blindness reveals very little about a person who is blind, namely the approach of integrating programs for blind people with those for sighted people. Forward strides have been made in regard to schools, especially at the secondary school level, and we can envisage a time when elementary school classes will become sufficiently geared to individual pupil needs that blind children, with the support of necessary resource personnel, will be adequately educated there.

It is also suggested that rehabilitation programs for the blind can become integrated within general rehabilitation centers to advantage. Surely the specialized training involved in learning braille or how to move about with a cane could be provided at such centers just as specialized training is provided the person learning how to get in and out of a wheel chair. Many other aspects of rehabilitation, however, could be carried out alongside the sighted person. We cite vocational training and counselling activities as examples. There is much to be gained by having people with different handicaps interact with each other. The blind person, who becomes aware of an associate who is confined to a wheel chair, is glad that at least he can walk. The paraplegic, in turn, is glad that he can see. Each is reminded of his own assets, an awareness that both comforts the person and sustains him in his rehabilitation efforts. Moreover, the interaction allows the sighted handicapped person to become acquainted with a blind person whose identity as a real person includes a scope of characteristics far wider than the fact of blindness.

In short, blind people ought to be accommodated in general community settings wherever possible, whether these settings be schools, rehabilitation centers, hospitals, churches, or whatever. This is not to say that a specialized center is never in order. Nor is it to say that blind people should not meet together for the sharing and solving of mutual problems. But it does say that integrated settings can contribute to the realization that the problems imposed by blindness are limited ones, albeit difficult ones, and that blindness alone cannot define a person's abilities or personality, for after all it is only one factor in the rich context of a highly differentiated life.

Thus far we have said little about how an understanding of the affective component of attitudes can provide useful guides for action. Insofar as familiarity reduces fear, pity, and uneasiness, it is to be expected that good educational programs, sound fund-raising campaigns, and increasing interaction between blind and sighted people, instead of feeding these reactions, would reduce them.

Need for Concerted Action

☐ And yet, with all that has been said, the job cannot rest with attempts at improving public attitudes alone. There are too many negating cognitive and affective forces, too many competing vested interests for such efforts to suffice. What needs to be added are the determined efforts of blind people themselves and of those working with them to continue to specify the kinds of environ-

mental opportunities that need to be brought about, to single out those upon which to concentrate, and to press for their realization, with special attention being given to the desirability of joining forces with other handicapped groups.

In one sense, it matters little what the attitudes of the general public are if the blind person is not impeded in his efforts to live a full, constructive, and satisfying life. There is considerable research evidence to show that not only do attitudes affect behavior, but that behavior affects attitudes. The point is that those who have the power to bring about and improve programs on behalf of blind people should be pressured to do so. To some extent, positive attitudes become a by-product of effective programs; and when blind people themselves take on leadership roles in fashioning these programs, the social perception of the abilities of blind people certainly is fostered.

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Florida's Industrial Training Laboratory for Blind Persons

ABSTRACT: The program of the Industrial Training Laboratory includes an Electronics Training Course—with a curriculum aimed as mastery of a wide variety of work and independent living skills—and a Job Simulation Division. Examples of the specific kinds of training are presented, along with plans for expanding the scope of the program. Of the 50 persons who have completed the course during the last five years, 48 are currently employed in full-time competitive jobs.

LEN HOSKINS

Mr. Hoskins is district director, Daytona Beach, in the Bureau of Blind Services, Division of Vocational Rehabilitation, Florida State Department of Health and Rehabilitative Services

Housed in a one-story building of approximately 4,800 square feet (originally constructed to serve as the barracks for a WAC training center in Daytona Beach during World War II), the "Electronics Training Project," as it was then called, accepted its first class of eight trainees in May 1968. Although the operation has provided services in the form of evaluation and general or specific training to over 350 blind persons in the intervening five years, its primary function today remains strikingly similar to the original concept: a well-balanced program of instruction in industrial skills, independent living, and financial management.

Five years of operation

Although still occupying the original training facility, the past five years of operation have witnessed numerous advances. Staff and students now present a neat shop-coated appearance. More sophisticated and effective equipment and training techniques have been developed. "Certificates of Graduation" are presented to students upon completion of their training. A new label—"Industrial Training Laboratory" (ITL)—more nearly reflects the true scope of the program. Most encouraging of all, the concept of "job simulation" is emerging as a sound procedure in training blind persons.

Electronics Training Course

☐ Since its inception, the bread-and-butter function of the ITL has been the Electronics Training Course. Classes have varied in size from five to seven. The course operates on an eight-hour day, five-day week schedule for approximately six months at a time, during which period trainees remain in residence in quarters provided for them in Daytona Beach. In screening applicants for each class, partially sighted or totally blind persons of either sex are eligible. A twelfth-grade education and an age on the younger side of 35 are desirable but not mandatory. Characteristics awarded an evaluative "plus" are finger dexterity, work tolerance, mobility, temperamental stability, and motivation. Familiarity with general math is an asset in this setting.

Of course, merely teaching a blind person the techniques of a job operation does not necessarily render him employable. For this reason, the areas of learning comprising the electronics course have been carefully chosen to enable the student not only to obtain competitive employment but to live with it independently.

The skills taught

The conduct of this course is not directed to the training of electronics technicians as found, for example, in radio and TV repair. Rather, emphasis

is placed upon the acquisition of a broad foundation of those skills found in the widest variety of operations within industrial electronics. Among the specific operations involved in the curriculum are use of measuring devices (braille ruler, braille micrometer, wire gauge, etc.), use of test equipment (V. O.M., oscilloscope, transistor tester, tube tester, etc.), identification and understanding of electronic components (tubes, transistors, capacitors, resistors, diodes, etc.), hand terminal crimping, electric and pneumatic terminal crimping and wire handling, termi-point crimping and wire routing, transformer and oscillator coil winding, soldering to NASA specifications (including tinning, relay, cup, turret, and circuit board), hand, rotary, and thermo wire stripping, and laminating.

No formal textbooks are used, since instruction is carried out through lectures, discussions, and actual performance. Each trainee is provided a cassette tape machine to record, review, and permanently retain material as appropriate. He may retain the recorder itself upon completion of the course.

Non-mechanical skills

As noted, there are many attributes requisite to successful job performance other than merely mechanical skills. The training process in electronics includes coaching in such physiological areas as finger and hand dexterity, work tolerance and mobility, and in such attitudinal demands as punctuality, reaction to orders, and willingness to work with peers as a team member. Basic techniques in compiling personal resumés, completing employment applications, and participating in employment interviews are included as imperative to obtaining a job in the first place. To insure maximum utilization of residual vision, all trainees with sight are professionally evaluated for improvement through visual aids. A 70-percent improvement rate attests to the importance of this service.

As a means of promoting interest on the part of prospective employers, live demonstrations are conducted by the trainees at such functions as the annual Florida Industrial Exposition, state Lions Club conventions, state conferences of the Governor's Committee on Employment of the Handicapped, etc. In addition, representatives of over 50 firms in competitive industry have visited the ITL itself.

Skills of Independent Living

☐ While the independent living area of instruction is decidedly not intended to replace the training provided in a comprehensive and fully staffed rehabilitation facility, its inclusion in our program is nevertheless considered indispensable. The trainees are housed in apartments approximately three blocks from the ITL. These accommodations are modern, clean, and comfortably furnished. The trainee is, however, expected to provide his own linens, blankets, cutlery, crockery, and cooking utensils, either from home or purchased with his first maintenance check. The process of learning to meet the demands of daily living requires trainees to maintain their own quarters in exemplary order as well as handling all of their own cooking, laundry, and shopping. In addition, they are required to travel independently between living and training quarters. Also, participation in local activities and attendance at local cultural or sporting events is considered important to the development of social acceptance.

Money management

Although actually an aspect of the art of independent living, sound money management is considered so important to success in both employment and personal life that special emphasis is placed on it in the overall training process. Each trainee receives a monthly maintenance check of a pre-determined amount. This must be deposited in a personal checking account established specifically for him with a local bank. From this account he is expected to write checks for his share of the rent and utilities for his living quarters as well as personal needs. The latter involves the personal experience of shopping for groceries, clothing, toilet articles, etc. By these and other means, the trainee is exposed—sometimes the hard way—to the problems of budgeting and managing a checking account.

Training Results

☐ The foregoing description includes the substantial elements and objectives of the ITL's Electronics Training Course. As a specialized training program for blind persons, the results have been spectacular. Of the approximately 250 candidates evaluated over a five-year period for this training, 60 were selected and 50 have completed the course. Of those 50, 48—or 96 percent—are currently engaged in full-time competitive employment. This includes all seven trainees of the first class of five years ago, five of them in their original jobs. The first blinded veteran of the Vietnam War to be employed in Florida is a graduate of the course. The only two totally blind electric and pneumatic amp crimpers in the nation are also graduates. Others are employed in such diverse occupations as coil winding, color coding, crimping, machine tool operating, small parts assembling, soldering circuit and component testing, and wire routing.

Job Simulation Division

☐ As the term implies, the function of the Job Simulation Division of the ITL is to reproduce the performance requirements of a particular job operation closely enough to permit realistic evaluation and/or training preparatory to an actual employment situation. The product is a blind person of demonstrated ability who is able to assume immediate job responsibilities without prejudice to his employer's production or service process.

Door-and-frame assembly

An outstanding example of *direct* job simulation resulted from a door-and-frame assembly project conducted by the ITL. A plant survey disclosed an employer who, while prepared to consider employment of a blind person, was reluctant to submit his production line to the necessary trial. He agreed, however, to lend the ITL most of the materials and tools used in his door-and-frame assembly process. Two blind candidates (the process required a two-man team effort) were selected and methodically trained on each successive mocked-up step involved in the entire operation. The project concluded with continual drills to improve timing. As anticipated, the employer expressed pleased surprise at the immediate proficiency of the team. He subsequently employed six blind workers on his payroll.

Direct job simulation is invariably the most satisfactory arrangement since it relates not only to the identical operations but to a *specific* setting and locale. It is also the most difficult to achieve because the employer is generally either unwilling or unable to provide the components necessary for a realistic mock-up.

CAMA board simulation

Just such a problem was solved by the ITL's Centralized Automatic Message Accounting (CAMA) telephone switchboard project. While success in the operation of CAMA switchboards had already been achieved by blind persons, the rate of failure along the way remains excessive. As the result of research and experimentation conducted jointly by the staffs of the ITL and the local General Electric laboratory, the highly sophisticated CAMA circuitry was simulated and installed beneath an almost identical board. The addition of a tape recorder completed a surprisingly realistic simulation of the CAMA operation. Trainees may now be screened for essential characteristics and coached to cope with timing and working situations almost exactly as they may expect to find them on the job. The first two graduates were operating actual "hot" boards on the second day of their employment, a rate of progress seldom achieved even by aspirants with full sight. In addition to this and the other simulations described, such projects have also resulted in employment for blind persons in such diverse occupations as machine tool operations, film stripping and splicing, and motorcycle repair.

State services

The ITL program is closely coordinated with the work of the vocational rehabilitation counselors of Florida's Bureau of Blind Services. Most of the achievements enumerated above were the result of employment surveys, recommendations, or requests on the part of the counseling staff. At this writing, graduates of the Industrial Training Laboratory are employed at the following firms in Florida: Aircraft Porous Media, Inc., Boise Cascades, Bonita Boat Works, Copystatics, Coulter Electronics, Disney World, Dynatronics, Eckerds Photo Lab, Electroc Magnetics, Florida General Electronics, Florida Transformer, Fourdee, Inc., General Dynamics, General Electric Bulb Division, General Telephone, Harrison Photocrome, Hillsborough County, Honewell, Keltic, Lauderdale Plating Co., Martin Marietta, Milgo Electronics Corp., Orange County, City of Orlando, RCA, Shurron Continental, Tee Pee Assembly, Thor Electronics, U I D Electronics, and Western Electric.

Employers

The Future

☐ The five-year record of the Electronics Training Course has proven beyond doubt the worth of this type of training for the blind community of Florida. Few changes are anticipated in the format. Adjustments will probably relate to occasional broadening of the base and up-dating of techniques. However, the aggressive development of job simulation, both direct and indirect, is clearly needed. It would appear that possibilities within this area of service are limited only by space, equipment, and staff available to the ITL. Some projects currently under consideration are assembly and repair of small engines (lawn mowers, vacuum cleaners, sewing machines, etc.), assembly and repair of small appliance transmissions (dishwashers, clothes washers and dryers, rider lawn mowers, etc.), assembly and repair of roller skates, assembly of pre-shingled roofs, assembly of specific small appliances such as telephone receivers, loading of shotgun shells for trap and skeet shooting, fabrication of small fishing equipment (fly-tying, lures, bobbers, sinkers, etc.), and plastic molding operations.

Expansion and diversification

Expansion and diversification of the ITL program will open the way for some interesting possibilities within the foreseeable future: 1. The addition

of new job simulation projects—particularly those of the indirect or on-going variety—may permit the introduction of certain of these into the curriculum of the Electronics Training Course, thus broadening the base of that division as well. 2. As the ITL program develops and the flow of trainees increases, it may prove feasible to introduce industrial subcontracting into the training process. This would add the element of "earning while learning." 3. The more comprehensive the ITL program, the greater the possibilities of tailoring a training program to fit the individual needs of trainees. 4. Inasmuch as there are certain units of production which lend themselves to assembly and repair operations in the home, it seems logical that appropriate blind persons might be trained in the ITL to this purpose. At all events, it would be our judgement that facilities such as Florida's Industrial Training Laboratory offer the most promising settings for developing new horizons for competitive employment for blind persons.

Professionalism in Mobility—*Continued from page 107.*

er than as professionals. Mobility with a cane as taught today is an infant practice; blind people have traveled for centuries with only their own techniques and the good intentions of well-meaning people to guide them. We now have the responsibility to ensure the development, refinement, and recognition of the art and science of cane travel. If we agree that mobility for blind persons is important, then the development of the profession must be important also. Because we are in a helping profession, we owe it to the clients entrusted to our care to continually improve ourselves and our profession. To do less would be professional hypocrisy.

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Prognostic Factors in the Visual Rehabilitation of Aging Patients

ALFRED A. ROSENBLOOM, O.D.

Dr. Rosenbloom is president of the Illinois College of Optometry, Chicago, and optometric consultant to the Chicago Lighthouse for the Blind.

ABSTRACT: Of a group of 150 patients, 60 to 89 years of age, 84 percent were successfully using prescribed low vision aids; 16 percent had discontinued their use. The factors influencing success or failure that were investigated include ocular pathology, degree of residual vision, types of prescribed low vision aids, and psychological-emotional adjustment to life and to visual impairment. The study revealed the importance of residual vision, the patient's life situation, and the extent of the training in the use of the low vision aid, to the success of the prescription.

The purpose of this paper is to determine the extent to which an aging low vision patient continues to use a low vision aid and the extent of its use in his life. This follow-up study seeks to analyze the physical, psychological, social-emotional, and occupational factors and their relationship to predicting success in the use of low vision aids for a group of 150 patients, ranging in age from 60 to 89 years, served by the Chicago Lighthouse for the Blind. Each patient was re-examined six months to one year after the date of the original examination to evaluate his success in maintaining the gains in visual efficiency which were characteristic of the original examination.

Successful Group

☐ Approximately 84 percent of the patients continued to use the low vision aid and reported moderate to highly successful results. In approximately 16 percent of the cases, the patients had discontinued the use of the low vision aid. In 53 percent of the subjects, the visual loss was due to acquired factors.

Another 39 percent, or 59 persons, were judged to be *moderately successful.* Such patients did not wear their aid constantly but reported using it regularly for the purpose for which it was intended at the time of dispensing. One-third of the patients in this group had low vision due to congenital factors. Thirty-three percent of this group returned for re-evaluation.

Unsuccessful group

The 16 percent considered *unsuccessful* are of two types. A small group (five percent of the sample) may have been able to continue using their visual aid, but such factors as senile changes, poor health, or a loss in vision seriously limited their use of and enthusiasm for the visual aid. In 16 cases (11 percent), the patient seldom wore the aid or expressed any interst in returning for re-examination. Less than 30 percent of this group were congenitally blind; over two-thirds of these patients had an acquired basis for partial vision and were 75 years of age or older at the time the aid was dispensed.

Ocular Pathologies

☐ In addition to examining the frequency with which patients used prescribed low vision aids, we were also interested in determining the types of ocular pathology characteristic of the group under study. Examination of the

This article is based on a paper presented at the Ninth International Congress on Gerontology, Kiev, U.S.S.R., July 1972.

ocular pathology considered responsible for the visual loss revealed that choroidal and/or retinal changes occurred with greatest frequency in over 60 percent of the group; 21 percent of the group suffered from congenital or acquired cataracts or conditions of the optic nerve, primary or secondary; 19 percent included corneal opacities or congenital or acquired anomalies.

Residual vision

A careful review of the relationship between the type of ocular pathology and the degree of visual loss failed to show a significant pattern. Regardless of pathologic type, the most important factors in determinng the success in low vision aids seemed to be the amount of residual vision and the functional field of vision. Patients with less than 3/200 visual acuity or markedly restricted peripheral fields of vision related to progressive types of ocular pathology (e.g., diabetic retinopathy, retinitis pigmentosa, advanced glaucoma) were least likely to benefit.

Low Vision Aids

☐ It is also interesting to note whether certain low vision aids are used more successfully than others. Within the successful outcome groups, approximately two-thirds (64 percent) of the patients were prescribed either a microscopic lens (ranging in power from 3X to 15X) or a high-plus reading addition (ranging from +3.00 D. to +14.00 D. with a median value of +8.00 D). The near vision of over 80 percent of these patients was improved to the point where magazines and newspapers could be read. Approximately 20 percent of the aids prescribed involved the use of fixed or focusable stand-magnifiers. Selection of this aid was often dictated by senile changes or occupational preference, by inability to adapt successfully to precise fixation-coordination demands of a headborne aid, or for use as an auxiliary correction. In relating the low vision aid to occupation or avocational interests and needs, 50 patients (33 percent) were housewives. In this group, 40 were benefitted by low vision aids and ten were not given aids. Eighty-six patients (58 percent) were retired persons, 65 of whom were benefitted and 21 were not. Fourteen persons (nine percent) were employed. Of this group, 13 received aids, and one could not be helped.

Psychological Factors

☐ In an attempt to understand the personalities of persons applying for low vision aids service, the consulting psychiatrist interviewed 50 non-selected patients. Capabilities, achievements, and reactions to life situations as revealed by interviews clearly indicated that some patients had serious emotional problems.

Three groups of patients were identified. The first group included 40 percent of the patients interviewed—patients who eagerly accepted the benefits of this professional service. Only four of the 20 patients in this group had emotional problems severe enough to require psychiatric care. Five patients (ten percent), comprising the second group, could derive benefit from a low vision aid but directly or indirectly refused to accept the adaptive training or the recommended correction. An analysis of these patients identified individuals who had, at some time in their lives, suffered emotional trauma; in the opinion of the psychiatrist, this experience had resulted in their showing hostility and insecurity in accepting professional help.

Unable to use aids

Patients with visual disabilities that could not be improved by low vision

aids made up the remaining 50 percent (25) of those interviewed. A psychiatric evaluation revealed that over half of them were in deep emotional depression, often anxious and unaccepting of their acquired visual impairment. As a group, most of these patients were unaccepting of their severe visual impairment; they appeared to cling unrealistically to the hope that some new low vision aid or medical treatment might restore their vision. Many had visited a succession of doctors and clinics. One significant finding which emerges from these interviews indicates the need for counseling if the patient is to attain a psychologically sound acceptance of his visual impairment.

Summary

☐ The following is a brief discussion of certain principles in caring for low vision patients.

1. Our clinical results have emphasized the need to be constantly aware of the fact that no matter how limited a patient's vision may be, to him that vision and its limitations take on a very real significance. If this vision can be improved even slightly, the patient's whole perspective and outlook improve, and the scope of his rehabilitation, both vocationally and avocationally, is broadened.

Psychic factors

2. An understanding of the importance of psychic factors is essential in determining whether or not the patient is ready to accept the benefits of a low vision aid. Some patients show a high degree of adaptation to their visual impairment; others may read by braille and show no indication of an interest in reading printed materials; some demonstrate deeply rooted emotional disturbances which may affect their willingness to persevere in the extended training required to adapt successfully to a visual aid.

Case history

3. A good case history will include essential information and will often determine whether or not the patient could be helped and may also indicate the appropriate direction the examination should follow. The practitioner should establish the patient's visual needs on the basis of his diagnosis, prognosis, and the duration of ocular pathology, present visual status, age and educational history, general health status, and the type of visual aids formerly prescribed or now in use. Questions should be asked to establish specifically what type of reading material the patient wishes to see—and for what purpose. If the patient has lived with his family and has had the assistance of a sighted person readily available, efforts may be directed to finding aids which would allow him to participate in normal family activities, e.g., television, card-playing, sewing, etc. However, if the patient lives alone, attention may be focused on specific and necessary tasks such as reading mail, identifying labels on medicine bottles or canned goods, etc. For an employed person, specific requirements of his occupation should be discussed with him in order to determine whether low vision aids might be used to perform his job more easily or with greater efficiency. Thus, for each individual there emerges a varying pattern of needs based on his individual situation and requiring the careful selection of the most appropriate low vision aid.

Training

☐ 4. Having decided that a patient can benefit from a low vision aid, the practitioner must be certain that the patient is properly trained in its use. Inherent limitations in the visual aids themselves require adaptation to such

factors as working distance, field of vision, and spatial distortions. New motor patterns of coordination involving hand, head, and eye must be learned. The patient must adapt to the characteristic reduction in working distance with an extremely limited depth of focus. Low vision aids may reduce the field of vision to a single word or less, making continuity in reading increasingly difficult. Sentences, even words, may appear as fragments, thus imposing problems in comprehension and speed. Proper illumination is an especially important consideration, since it must be adequate and properly directed. Adaptive visual training involves repeated explanation, demonstration, and extended practice on material of high interest to the patient. When magnification devices are used, a sudden change is imposed on the visual sense without a corresponding change in the other sense modalities. This spatial-perceptual imbalance can create a significant change in the patient's perception, affecting his judgments in size, direction, and distance. Time, patience, and an understanding, sympathetic attitude is demanded of the examiner.

Finally, a factor which is as important as the design of the low vision aid itself, is the professional examiner's full understanding of the patient's functional field of vision, motivation for visual rehabilitation, and specific avocational and vocational needs and interests.

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A.A. Literature on Tape and in Braille

Alcoholics Anonymous offers a program of recovery from the illness of alcoholism. Through the sharing of experience, strength, and hope with each other at informal meetings throughout the world, A.A. members try to stay away from the "first drink" a day at a time. Information about the program is now available on tape and in braille from General Service Office, Box 459, Grand Central Station, New York, New York 10017 (telephone 212-686-1100). If desired, every effort will be made to put individuals in touch with an A.A. member and to see that they get to an A.A. meeting.

Business Enterprises Education Program: A Course for Supervisors

ABSTRACT: A short course for the training of supervisors of concession or vending stands operating under the Randolph-Sheppard Act was provided on a trial basis in 1972 and 1973 at the University of Tennessee. Instructors in the areas of educational psychology and guidance, management, marketing, accounting, food science, institution administration, etc., and consultants from the field of work for the blind participated. Thirty-one students attended the first course, 36 the second. Out of the two programs came a Course Guide *and the recommendation that an ongoing graduate-level program be established.*

ROBERT P. CLARK

Mr. Clark is acting associate coordinator, Business Enterprises Education Program, Department of Special Education and Rehabilitation, University of Tennessee, Knoxville.

The federal Randolph-Sheppard Act of 1936 was the stimulus for the establishment of a nationwide Business Enterprises Program (BEP). This law gave state licensing agencies priority in placing visually handicapped individuals in small business enterprises, usually concession or vending stands, in federally owned buildings. Since 1936, federal and state administrative agencies have expanded the BEP to provide employment opportunities in both government and industry for approximately 3,500 legally blind individuals. The total gross retail sales of the program exceeded $112 million in 1972. Training for the BEP supervisor during this period of growth has traditionally been provided through on-the-job experiences or short-term state programs tailored to the idiosyncracies of BEP policies in that particular state. Only within the past few years have programs been conducted to broaden the scope of this training and strengthen professional input. Michigan State University, through the Kellog Center for Continuing Education, presented a three-day course in 1968 and 1970 using university faculty; the University of Tennessee, in 1968 and 1971, conducted three-day workshops taught by university faculty, and local, state, and regional rehabilitation officials.

The Need for BEEP

☐ The success of these programs and the interest expressed by the students and their state supervisors in more systematic and comprehensive education have indicated that the development of a prototype short-term educational course for supervisors at the university level would further strengthen the rehabilitative efforts of the Business Enterprises Program. Under the direction of Dr. William Holbert, professor and coordinator of rehabilitation counselor education at the University of Tennessee at Knoxville, the Business Enterprises Education Program (BEEP) was established to plan a course of this type. This organization became the fourth member of an integrated rehabilitation research and training unit in the Department of Special Education and Rehabilitation.

Two trial programs

Since its inception, BEEP has planned and conducted two trial supervisor training programs as part of the course development. The first program was held at the University Center in August 1972. This two-week course scheduled

some 50 hours of class time and incorporated various educational experiences such as field trips, films, video demonstrations, discussions, and role playing, and provided substantial reference material produced especially for the course. Thirty-one supervisors from 17 states attended. Thirty-six students attended the next course, held in Knoxville in April 1973. The course was shortened to one week and included 30 hours of scheduled class time. Instructional materials, methods, and content were revised and improvements in other course aspects were made.

Course guide published

The information gathered from the development and presentation of these trial programs has been compiled and integrated into a guidebook, *Business Enterprises Education Program: Course Guide*, to aid state or federal BEP officials in the development and presentation of other courses of this type. The *Guide* contains recommendations on conducting the course, instructional objectives, content outlines, learning activities, bibliographies, sample evaluation items, and handout material.

Development of the Program

☐ The course developed by BEEP is unique in several ways. First, the approach to gathering information which had implications for the design of the course was systematic. With apparent differences in supervisor responsibilities and skills in the several states, it was necessary to write an accurate and comprehensive job description. The data for this was gathered through a nationwide survey in which some 3,900 questionnaires were mailed to BEP managers (operators) and supervisors in every state and territorial agency. The survey also permitted the identification of three problem areas for supervisors relevant to the course design: 1) lack of supervisor training in counseling, 2) unmotivated personnel, and 3) difficulty in locating qualified operators and employees.

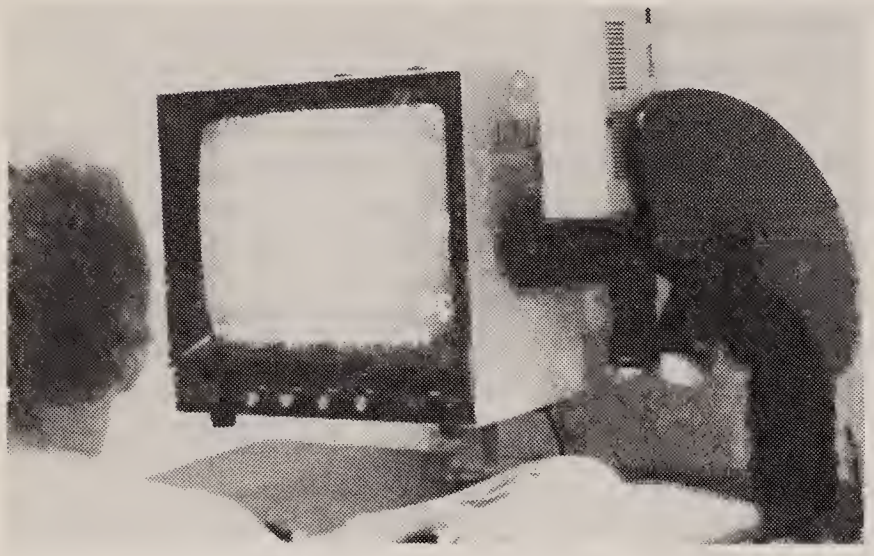
Advisory council

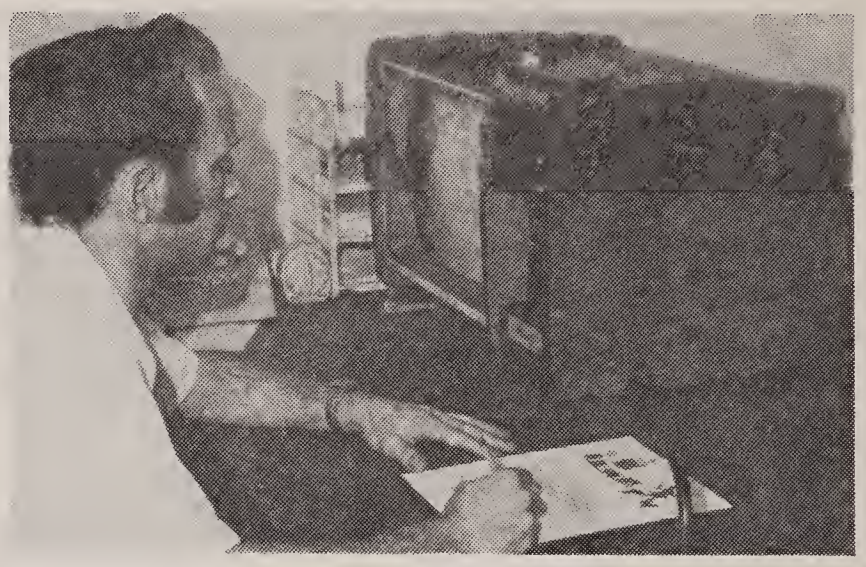
Information from schools which had previously conducted three-day supervisor training courses, and state and consultant training publications, notably the *Vending Stand Management Handbook* (Boston: Harbridge House, 1961), were reviewed. An advisory council was also selected: William T. Coppage, director, Virginia Commission for the Visually Handicapped; Billy Day, chief, Mississippi Vocational Rehabilitation Services; Robert E. Farley, state supervisor, BEP, Tennessee Services for the Blind; William J. Ferrell, specialist in rehabilitation-home teaching, Tennessee Services for the Blind; Leon Hall, supervisor of BEP, Georgia Office of Rehabilitation Services; Howard Hanson, director, South Dakota Service to the Visually Impaired; George M. Hudson, director of vocational rehabilitation, Alabama State Board of Education; Robert Melody, coordinator, California Department of Rehabilitation; and Burt L. Risley, executive director, Texas State Commission for the Blind. This group of experienced professionals reviewed program plans, suggested additional instructional content, and planned for the selection of students.

Instructors for BEEP

☐ The BEEP course is also interdisciplinary. Departmental chairmen at the University of Tennessee assisted in the selection of potential BEEP instructors by identifying faculty members with the desired expertise and teaching skills. Individual instructors were eventually chosen from the departments of educational psychology and guidance, industrial and personnel management, mar-

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☐ Also send detailed product literature and prices.

☐ I'd like to get a demonstration first . . . please have your nearest representative contact me to arrange an appointment.

☐ I'd also like to learn more about installment purchases.

Name: _____

Agency or Organization: _____

Mailing Address: _____

_____

Phone: ( ) _____

keting and transportation, industrial engineering, accounting, and food science and institution administration. In order to help instructors design objectives and content, individual and group meetings were held outlining the aims and characteristics of the supervisor and the relationship of the supervisor and his blind client. The faculty was provided with reference information and encouraged to develop instructional materials and methods specifically for the course.

Presentations by consultants

Mary K. Bauman, diplomate and director of Personnel Research and Guidance, Inc., Philadelphia, was retained as a consultant to prepare and present a class on the psychosocial aspects of blindness. Presentations by Dr. Douglas C. MacFarland, director, Office for the Blind and Visually Handicapped, HEW, and Henry Seward, vocational rehabilitation specialist, Rehabilitation Services Administration, HEW, were also included as part of the course. The inclusion of these individuals provided specific and complementary professional input which was not available from within the university.

These efforts have resulted in a comprehensive course. Unlike previous training efforts, the counseling-to-business continuum required in the supervisor's work is made operational. Rudimentary information from each of the college-level aspects which encompass this continuum has been included in the "curriculum." The course could easily be expanded from information presented in the *Course Guide*.

Credit is available

A final distinguishing feature of this course is the opportunity for the students to receive university credit. Through the University Division of Continuing Education, arrangements were made to offer students three quarter-hours credit at either the graduate or undergraduate level.

Though comprehensive empirical data on the efficacy of the BEEP course is extremely difficult to obtain, it is evident that the course can effectively increase the proficiency of the supervisor in the management and performance of his professional duties. The bringing together of BEP supervisors from various regions and states provided an informal setting for the communication of ideas and information relevant to the improvement and expansion of BEP services to blind persons.

An Ongoing Program Is Needed

☐ Though the BEEP courses have been successful, continued short-term programs are not compatible with long-term BEP objectives. An established graduate program in this area is essential if higher levels of professional competence for the supervisor are sought through formal education. The fact that only two of 67 supervisors elected to take the courses for credit indicated the need for an ongoing graduate course of study rather than a hyphenated process. A possible university program might include three quarters of graduate course work in rehabilitation counseling, with a fourth quarter of classes in marketing and promotion strategy, personnel management, quantity food production and service, and human factors in work design. A program of this type, set up at the University of Tennessee and/or other university communities providing graduate rehabilitation counselor education, would become an educational resource for training students to provide visually handicapped persons with more productive employment opportunities.

Rhode Island Bookmobile Serves Homebound Elderly

"Parnassus"

Less than a year ago "Parnassus on Wheels" was only the title of a book for young readers, a story about a couple who traveled country roads in a horse-drawn wagon, taking books to people in out-of-the-way places. In Rhode Island today it is the name of a bookmobile which carries books and tapes to about 150 homebound elderly, nursing home residents, and handicapped in two communities, Foster and Coventry.

Launched in September 1972, the mobile library is funded by a Title III Older Americans Act grant from the state's Division on Aging. It was developed by former Coverntry library director Joe Fitzpatrick and Sally Henderson, librarian in Foster.

Two-Week Schedule

☐ The "Parnassus" van visits each subscriber every two weeks, bringing him his choice of conventional, large print, and talking books, cassette tapes, and puzzles. Library materials have been obtained from local sources, government agencies, and the Department of State Library Services. "Parnassus" recently received $1,000 worth of large print books, but more are needed, particularly in foreign languages.



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"Homebound subscribers usually want books on travel and of a more technical nature," said "Parnassus" driver Audrey Barrington, "while nursing home readers prefer collections of short stories." At nursing home stops, Mrs. Barrington said, she always leaves a dozen books in the recreation room for anyone to read. "We started out with most of our readers coming from nursing homes," she said, "but with our weekly ads in the local paper and through word of mouth, we are getting more homebound."

Social Contact

☐ "We allow for about seven books or tapes per reader," she added. "Since our present enrollment is about 150, that's a lot of books to transport and circulate. But 'Parnassus' has not lost one book or magazine since it began." In addition to educational and recreational service, the project also provides some regular social contact for the homebound. "I try to chart about 15 minutes at each stop," Mrs. Barrington said, "but not too much longer so I can be sure to see everyone who is expecting me that day. I have learned much about people and the history of the area through this job. If everyone knew how much fun driving 'Parnassus' was, they'd all want my job!"

Reprinted from Aging, *September-October 1973, p. 11.*

Degrees & Decrees

". . . since the Ph.D. (or equivalent) degree represents an award primarily for the completion of research studies and hence is truly a graduate degree, and whereas the M.D. degree is generally an undergraduate degree (where no B.S. or equivalent degree is a prerequisite), the nonmedical doctoral degree should have precedence over the medical.

"As is of course well known, the term doctor was originally applied solely to teachers (from the Latin *doceo*, to teach, instruct) and earlier had only occasional or incidental reference to the area of medicine.

"Even yet in Great Britain and the Commonwealth, physicians often hold only the bachelor's (sometimes master's) degree and are addressed as 'Mister.'

"Since most nonmedical doctorate holders carry out teaching and the related research functions, it is obviously more appropriate to address them as 'Doctor' than the physician who carries only the single degree, M.D."

—George M. Hocking, Ph.D., Auburn, Alabama

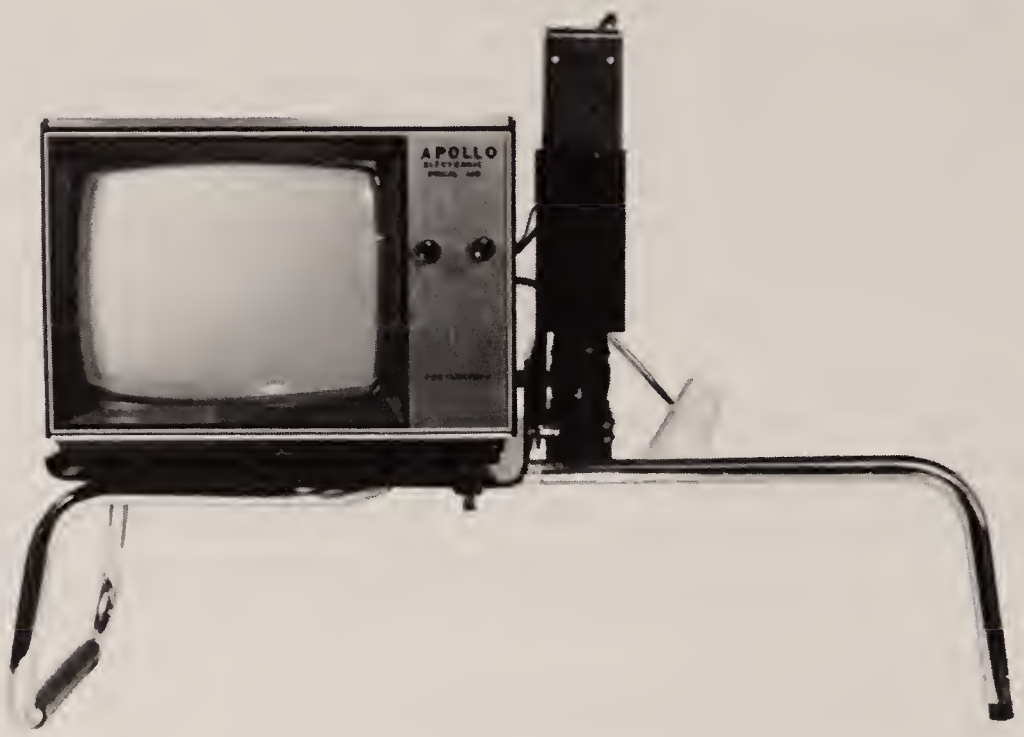
From Chemical & Engineering News, *January 15, 1973. Reprinted with permission.*

"*Dogma*. Rule 46 of the Oxford Union Society in London reads: 'Any member introducing a dog into the Society's premises shall be liable to a fine of £1. Any animal leading a blind person shall be deemed to be a cat.' "

—Michael Austerberry

From The Times, *London, via* The Reader's Digest, *February 1974.*

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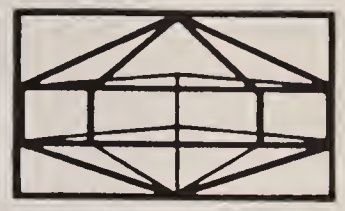
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Hindsight / M. Robert Barnett



Where's The Audience?

A friend commented to me not long ago that a person who is blind has an advantage over one who can see when it comes to making a speech. His reason was simple enough—the blind speaker is free to look at the audience without the necessity of dropping his eyes to his manuscript or notes.

This observation provided me with the first idea I have ever had that making a speech was not just one big complicated problem. An old quip states that a speech is like a baby—it's easy to conceive but hard to deliver. From my own experiences and from the anecdotes of others, this certainly is true for the average blind person.

If you who are blind are anything like me, you find two particular problems that have to be solved in making a speech: 1) just where the heck is the audience; and 2) how to keep your place in the outline or script in braille. There are other problems, of course, like having something to say that is worth listening to and knowing when to stop—but these are not problems peculiar to the blind.

In the typical meeting room or luncheon hall, one can easily orient to the location of his audience. The room arrangement is generally pretty standard, and an occasional joke not only serves to lighten the burden of your remarks for the audience but also gives you a chance to find out where they are—that is, if they laugh. One little item I often use which accomplishes several practical and psychological objectives simultaneously has to do with the obvious use of the trusty old braille watch. Examining your watch with deliberate and composed attention, you remark that the chairman has given you fifteen minutes and you intend to stay within your allotted time. You have thereby relieved your audience's mind and you have demonstrated normalcy: blind people can tell time. Then you interrupt the hushed whisper of amazement with the following story:

"Whenever I look at my braille watch I am reminded of a story. It seems that a boy and a girl were sitting close together one evening and among other activities were discussing each other's temperaments. The youth said, 'Honey, I can read you like a book.' And the girl said, 'Well, that's all right, but lay off the braille system.' " This story proves you are normal also. If you are lucky enough to have an audience that never heard it before, it really wows them.

I have had two experiences in particular of late, however, that pretty well defied me in the effort to locate the audience. One was in church and the other was at IBM's New York press conference about the role of computers in the production of braille books. The church incident was when I was asked to be one of four laymen who would discuss religious values in various fields of human enterprise—mine to be a discussion of the necessity for religious values in social work. Picture me, if you can, in a pulpit—my immediate colleagues at the American Foundation for the Blind are having trouble with the image. Anyway, the difficulty I had was not so much with the strange sensation of the Deity looking over one's shoulder, but rather that the acoustics in that particular church were dead. So was the audience. Now, you know darned well that you are not supposed to tell jokes in church. But there I was, and desperately I tried to find out where the congregation was sitting somewhere down below me. And—you guessed it—I told a joke. I illustrated a point about attitudes toward the blind by repeating the *Reader's Digest* story about the fellow who had bought a set of Venetian blinds for his home. One did not function properly, and unknown to his wife, he called the firm to send someone to fix it. That morning the housewife went to the door when the bell rang. The man said, "I've come for the Venetian blind." The lady said, "Oh, well, wait just a minute." She procured her pocketbook from another room and handed the man a dollar.

The International Business Machines Corporation event was something else. The purpose of the public relations activity was to demonstrate the application of the principle of computing machines to the almost automatic translation of print into Grade Two braille. The program featured the work of the American Printing House for the Blind in a cooperative research and development project with IBM and the Library of Congress. My three-minute comment was one of salute to this team example of American enterprise and technical know-how working toward the betterment of mankind.

Have you ever tried to talk to a roomful of IBM machines? The press conference location was within about ten feet of the famous "704." For a monster it really is rather quiet, but it and its auxiliary monsters sitting around the room set up a sort of humming and clicking that pretty well destroy the acoustical cues that the blind persons find so valuable. Even though I doubt if I ever really located the people audience, I find solace in knowing that at least the machines heard me and have probably stored me up for rapid reproduction at some quieter moment.

So much for that advantage of looking out at the audience my friend commented about—if you cannot find them it still can make you seem a little silly and it might be better after all to have the disadvantage of sight and be forced to look down at your notes. The other dilemma for the blind speaker is that of following a braille or other outline, and I would very much like to hear from any Hindsighters just how they meet the problem.

Arthur Voorhees, a former Foundation staff member, for example, had a clever arrangement of a long strip of braille paper that was folded accordion-like into pocket-size note paper. As he spoke he progressed from one fold to the next without the danger of getting the sheets out of

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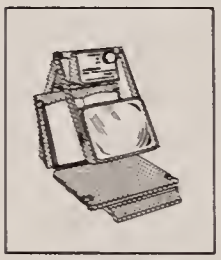
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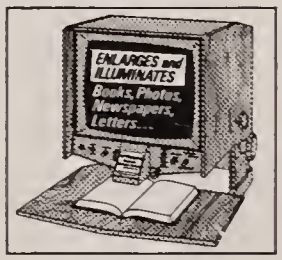
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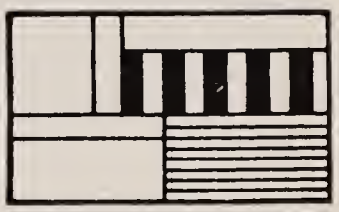
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order. I have noticed many others who are able to read a braille text with ease. Of course, perhaps the key to success for such persons is in the advance reading of the braille manuscript a number of times, especially aloud, so that in effect they are using the text as a sort of cue sheet to get them started on a paragraph which they actually have memorized. The esteemed Helen Keller, outstanding as a speaker and one who had the added problem of deafness, could read braille even the first time she went over it with the speed of a sighted person reading normal print. Miss Keller, however, first brailled her remarks, then typed with her own hand a copy for Miss Thomson, and when the time came to do the bit she used no notes or manuscript at all. George Card of Wisconsin is one of those who, faced with the presentation of a particularly complicated and lengthy paper, uses a prompter who has a whisper-sensitive microphone with a wire leading to a small earphone in George's ear, so that if necessary he not only can be cued but could conceivably repeat whole sentences just behind his prompter's unheard voice.

As for me, no matter what technique I try, I usually fall back upon that old excuse that after all the ad lib style is best. This is fine—provided you occasionally remember to complete a thought and manage to come back now and then to the theme of your speech. If everything else fails, you can try falling backward off the platform into a tangle of chairs, flowers and movie screens. This I did in Oklahoma once. A friend on the Texas agency staff said she always knew I would stop at nothing to attract attention.

Reprinted from the June 1959 issue of the New Outlook for the Blind.

Review



The Meaning of Blindness: Attitudes Toward Blindness and Blind People, by Michael E. Monbeck. Bloomington, Indiana: Indiana Univ. Press, 1973. 214p. $6.95.

Reviewed by Berthold Lowenfeld Ph.D

The problem of attitudes has received a great deal of attention in our field throughout its short history. There was a time when attitudes toward the blind were considered the key to the solution of the problem of inequities in the social and economic status of the blind. And there are now some voices that assure us of the relative unimportance of attitudes as compared with the law—the former having proven resistant to change and the latter being changeable and enforceable.

Monbeck focuses in his book on the sources of attitudes and on an interpretation of the meaning of blindness. The first three chapters and the closing fifth chapter deal with attitudes, and the fourth chapter with the meaning of blindness. In the first chapter Monbeck describes the various attitudes and lays out their essential substance. In the second chapter he investigates the cultural and historical sources of these attitudes as they are transmitted to the individual, by tracing their antecedents in literature, historical records, mythology, and folklore. For this purpose he reduces the variety of attitudes and beliefs to 15 basic ideas and then proceeds to discuss the origins of each.

The individual acquires attitudes toward blindness and the blind not only through cultural heritage but also as a result of experiences with and reaction to blindness and blind people. The third chapter, the longest of the book, presents a broad outline of opinion and research dealing with the psychosocial origins of attitudes. The author draws knowledgeably and richly from a broad source of available writings and research and offers a well-structured and scholarly treatment of the topic.

In the fifth chapter, a short one of only nine pages, Monbeck discusses attitude changes and evaluates the various possibilities of improving attitudes.

It is the fourth chapter of the book, entitled, "The Meaning of Blindness," about which this reviewer has serious reservations. Monbeck introduces some of the mystical ideas of C.G. Jung and his so-called Analytical Psychology, and uses them in interpreting the meaning of blindness. While the concept, derived from Freud's psychoanalysis, that blindness and the blind person evoke castration anxiety clarified and deepened our insight, the introduction of mysticism and symbolism in the form of archetypes, Shadow and Stranger, and maternal uroboros, obfuscates the issue and the reader. Monbeck pursues this in spite of his recognition that the concept of the archetypes is one of the most controversial discoveries made by Jung. On devious routes of argumentation the conclusion is reached that blindness is to be equated with loss of consciousness. This he considers the symbolic significance of blindness and believes that it is grounded in the instincts. The reviewer believes that by concentrating on this kind of interpretation of the meaning of blindness the continuity and indeed the viability of life after the onset of blindness is questioned. To ascribe to blindness the effect of causing in others castration anxiety and to equate psychologically the eye with the sex organ is different from considering

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blindness as a collapse or loss of consciousness. To this I have essentially the same objections as to the concept of "death and rebirth" resulting from adventitious blindness, as presented in *Blindness: What It Is, What It Does, and How to Live with It* by the late Reverend Thomas J. Carroll. The equation of blindness with death or with loss of consciousness is a speculative assumption which I consider detrimental to the interest of the blind and not contributing anything constructive to our knowledge of blindness or its meaning.

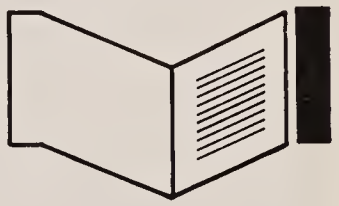
Rather than viewing the impact of blindness on the individual in such a negative and catastrophic way, I believe in the continuity of personality and in its ability to make adjustment even to such extreme changes as the advent of blindness. This thought has also been expressed in an outstanding article by Dr. Emerson Foulke (*New Outlook for the Blind,* February 1972, pp. 33-37, 42) who completely dismissed the "death and rebirth" concept as failing to encompass and organize useful information and as misdirecting its adherents in the search for new information. Dr. Foulke suggests that adventitious blindness demands a reprogramming of a nervous system that was programmed by visual experience. Whether it is readjustment or reprogramming, it is not the finality that is implied by death or loss of consciousness.

Both of these radical equations, death and loss of consciousness, are nonsexual and this must be suspected as the reason why castration anxiety was replaced by them. This reminds me of the story that is told in the second volume of Ernest Jones', *The Life and Work of Sigmund Freud:* "On Jung's return from America he sent Freud a long account of his experiences and of how successful he had been in making psychoanalysis more acceptable by leaving out the sexual themes. To which Freud tersely replied that he could find nothing clever in that; all one had to do was to leave out more still and it would become still more acceptable (p. 144)." Now I do not claim that Monbeck overlooked castration anxiety. He gives it due and full recognition in his book. But I do think that the concept of castration anxiety and that of death or loss of consciousness cannot coexist.

If I have been critical of the fourth chapter of Monbeck's book, it must be remembered that this is only one-fourth of the book and even in it he adduces a considerable amount of valuable source and reference material about such pertinent topics as light and darkness, the eye, loss of one eye or both eyes. Taken as a whole, Monbeck's book is a contribution that all concerned with work for the blind will want to read.

Dr. Lowenfeld is the author and editor of many books and publications, including the recently published book The Visually Handicapped Child in School.

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

The Readability of Certain Type Sizes and Forms in Sight-Saving Classes, by Harold J. McNally. Teachers College, Columbia University, Contributions to Education No. 883. AMS Press, Inc. (56 East 13th Street, New York, New York 10003), 1972 [c1943] vi + 71p. $10.00. Originally published by Columbia University in 1943, this long out of print title is now available in a reprinted edition.

The Incidence and Causes of Blindness in England and Wales 1933-68; With an Appendix on Services Available for Incipient Blindness, by Arnold Sorsby. Department of Health and Social Security, Reports on Public Health and Medical Subjects No. 128. Her Majesty's Stationery Office (49 High Holborn, London WC1V 6HB, England), 1972, ix + 72 p. 52½ p. This is the last report in a series by Professor Sorsby and completes a 36-year (1933-1968) study of blindness begun under the auspices of the Medical Re-Search Council and later transferred to the Department of Health and Social Security, Great Britain.

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Problems of Being Visually Handicapped, by Jane Finnis. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA, England), Vol. 57, No. 678, October 1973, pp. 254-258. Text of a paper presented at a one-day conference on reading needs sponsored by the Library Association and the National Association for the Education of the Partially Sighted, held in London, June 5, 1973. The author, who is partially-sighted, based her paper upon her own personal experiences.

Binaural Sensory Aid: Editor's Report, by Margaret K. Bisbee. *The Rehabilitation Teacher* (see address above), Vol. 5, No. 10, October 1973, pp. 17-21. Description of the evaluation and testing of the "Ultrasonic spectacles" developed by Professor Leslie Kay of New Zealand. The device is still in the pre-production stage but about 100 blind persons in the United States have already taken part in training sessions.

Art for the Blind . . ., by Laura De Wyngaert. *Arts and Activities* (Publishers' Development Corporation, 8150 N. Central Park Avenue, Skokie, Illinois 60076), Vol. 73, February 1973, pp. 30-32. Illustrated article by a junior high school art teacher concerning the efforts of her sighted class in developing art forms that would appeal to blind and partially sighted people.

We Have Overcome; Deaf, Blind and Great, by Karel Lipa and Pavel Les. 1971, 155p. $3.00. (Order from We Have Overcome, P.O. Box 3828, Oak Park, Michigan 48237.) A collection of brief biographies of well-known persons, past and present, who overcame the handicap of deafness or blindness to achieve success.

The Optacon: A Personal Report, by Harry Bassler. *The Rehabilitation Teacher* (National Braille Press, Inc., 88 St. Stephen Street, Boston, Massachusetts 02115), Vol. 5, No. 10, October 1973, pp. 13-16. Description of the electronic reading device and the author's experiences in learning and using it.

Psychosocial Rehabilitation of the Blind, by Alvin Roberts. Charles C Thomas, Publisher (301-327 East Lawrence Avenue, Springfield, Illinois 62703), 1973, xv + 83p. $8.95. Written by a practitioner in the field of rehabilitation of the blind and using the terminology of Transactional Analysis, this text is a compilation of techniques which the author has found especially useful in helping newly blinded individuals.

U.S. Typewriter Industry Marks 100th Anniversary. *The Office* (Office Publications, Inc., 1200 Summer Street, Stamford, Connecticut 06904), Vol. 78, No. 5, November 1973, pp. 106, 108 & 110. Historical data excerpted from a comprehensive treatise on the typewriter written in 1923 by William Schulhof. Mention is made of several early inventors who were trying to develop writing devices for the blind and the partially sighted.

Dance and the Blind Child, by Ann Chapman and Miriam Cramer. American Dance Guild, Inc. (245 West 52nd Street, New York, N. Y. 10019), June 1973, 17p. 75¢. This paper was published in conjunction with the annual convention of the American Dance Guild, Inc. and is written from the viewpoint of teaching one blind child in a class with sighted children. The longest section (pp. 7-15) consists of a detailed lesson plan.

The Genetics of Severe Visual Handicap in Childhood, by Norman C. Nevin. *The Teacher of the Blind* (Royal School for the Blind, Church Road North, Wavertree, Liverpool L156TQ, England), Vol. 62, No. 1, Autumn 1973, pp. 4-15. A discussion of inherited causes of blindness by the Senior Lecturer of the Medical Genetic Unit of The Queen's University in Belfast, Northern Ireland.

Experience of Cause in Sighted and Blind Samples, by Thomas M. Nelson and Brian H. MacDonald. *Perceptual and Motor Skills* (Box 1441, Missoula, Montana 59801), Vol. 37, No. 3, December 1973, pp. 903-910. Report on testing of perceptual causality by means of fixed sequences of haptic stimulation. Comparisons are made of the reactions of subjects who were early blinded, late blinded and blindfolded sighted.

Inter-Manual Transfer of Tactual Learning as a Function of Stimulus Meaningfulness, by Kenneth M. Kleinman and Lawrence H. Cloninger. *Perceptual and Motor Skills* (see address above), Vol. 37, No. 3, December 1973, pp. 875-880. Report on tests involving presentation of wooden shapes of both high and low meaningfulness. Vision was blocked by means of a cloth screen and verbal mediation was minimized.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Agency Administration

Future of the Voluntary Service Organization, by Ralph M. Kramer. *Social Work* (National Association of Social Workers, 49 Sheridan Avenue, Albany, New York 12210), Vol. 18, No. 6, November 1973, pp. 59-69. Examines the changing role of the voluntary service organization and presents some of the options open to it in the future.

Consumerism

Consumer Input—How? National Health Council (1740 Broadway, New York, N.Y. 10019) 1973. $0.35. "This effort is in recognition of the growing concern of public and private agencies to involve consumers in developing policies and programs which affect the public."

Genetics

Genetic Counseling. National Foundation-March of Dimes (Box 2000, White Plains, New York 10602), 1973. Free. "Strikes a reasonable balance between reassuring families and individuals about the generally low risks involved, and alerting them to potential hazards where genetic counseling would be advisable."

Pamphlets

The Blind Patient. Greater Detroit Society for the Blind (1401 Ash Street, Detroit, Michigan 48208) 1972. 4 p. Free. Tips on assisting the blind hospital patient, based on procedures and techniques developed by specialists in rehabilitation.

Psychology and Perception

The Recognition of Faces, by Leon D. Harmon. *Scientific American* (Scientific American, Inc., 415 Madison Avenue, New York, New York 10014), Vol. 229, No. 5, November 1973, pp. 71-82. "One of the subtler tasks of perception can be investigated experimentally by asking how much information is required for recognition and what information is the most important."



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Research

High Illumination As an Auxiliary Reading Aid in Diseases of the Macula, by Louise L. Sloan, Adelaide Habel, and Katharine Feiock. *American Journal of Ophthalmology* (Ophthalmic Publishing Company, 160 East Grand Avenue, Chicago, Illinois 60611), Vol. 76, No. 5, November 1973, pp. 745-757.

Statistical Surveys

Profile of Blind Persons. *Statistical Bulletin* (Metropolitan Life, One Madison Avenue, New York, New York 10010), Vol. 54, No. 6, July 1973, pp. 9-11. Statistics on blind persons in the United States, by age, sex, geographical region, and major types of eye affections causing blindness, for the period 1970-1972.

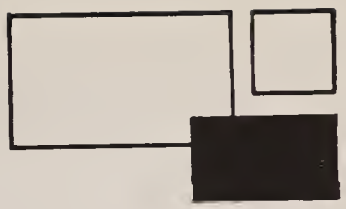
Vocational Rehabilitation

Personal Polarity and Placement Problems, by Raymond D. Newman, Jr. *Journal of Rehabilitation* (National Rehabilitation Association, 1522 K Street, N.W., Washington, D.C. 20005), Vol. 39, No. 6, November/December 1973, pp. 20-25. Investigates little-researched areas of the rehabilitation process—the counselor's personality, and the rehabilitation activities which "create images within the general population which are negative and essentially shut off many avenues of placement."

Placement Planning—No Room for Chance, by Jack R. Clarcq. *Journal of Rehabilitation* (see address above), Vol. 39, No. 6, November/December 1973, pp. 26-32. Argues that sound planning and evaluation eliminate failure in job placements.

Vocational Rehabilitation Practices; a Behavioral Analysis, by Orv C. Karan and William I. Gardner. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612), Vol. 34, No. 10, October 1973, pp. 290-298.

In Brief



■ The National Eye Institute awards post-doctoral fellowships to support full-time research training of individuals wishing to pursue investigations into "the causes, prevention, diagnosis, and treatment of blinding eye diseases and disorders of the visual system." The awards will be made on a competitive basis to individuals with a professional or scientific doctoral degree. Both citizens and non-citizen nationals of the United States "who have been lawfully admitted to the United States for permanent residence at the time of application" are eligible for the fellowships. The deadline date for the awards is May 1. Application material and guidelines for the program may be obtained from Scientific Programs Branch, National Eye Institute, National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland 20014.

■ A new program in Optical Finishing Technology developed at the National Technical Institute for the Deaf, (NTID) will open new job opportunities for the deaf. The program developed because of the need for well-trained technicians to produce finished prescription eyewear for the optical industry. NTID is the only post-secondary technical college for the deaf. Established by Congress, it represents the first large-scale effort to educate deaf students on a hearing college campus, Rochester (N.Y.) Institute of Technology. Present plans call for students to be enrolled in the program for approximately nine quarters, including a co-op work experience. Graduates will be skilled in finishing and final assembly techniques, which include the operations of automatic and hand edging, pin beveling and frame insertion. Representatives from Bausch and Lomb, as well as other professional representatives from the optical industry, will comprise the advisory group to the program, which expects students to enter beginning in September, 1974.

■ Although in many areas of specialization the supply of teachers exceeds the demand, special education teachers are in short supply. According to a recent *New York Times* article, ". . . while new elementary school teachers are generally a glut on the market, their college classmates who specialized in teaching children with learning disabilities or emotional or physical handicaps are in widespread demand." In addition, the special education teacher will have a choice of many settings in which to work—the resource room, residential schools, itinerant programs, etc. The many teaching opportunities open to students in the field of special education should provide career incentives to prospective teachers concerned about job placement after completing their college training.

■ The New York State Education Commissioner recently directed the New York City Board of Education immediately to place "all students with diagnosed handicaps in appropriate public school classes or private schools at public expense." The ruling came in response to an appeal by parents of nine representatives of "all handicapped children deprived of suitable educational services in the city." The New York Association for Brain Injured Children was also a petitioner in the appeal. Educating these previously neglected children will cost 100 percent to 600 percent what it would cost to educate non-handicapped children, an additional cost of nearly $60 million to the City system. Between 10 and 24 thousand children will be effected by ruling.

■ The fifth International Deaf-Blind Seminar will be held in late July at Condover Hall School, Shrewsbury, England. The theme of the Seminar is "Themes Into Practice." Hosts for the Conference will be the Royal National Institute for the Blind and the Governors and staff of Condover Hall School. For further information about the Seminar contact Michael Colborne Brown, Education Officer, The Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA.

■ Alexander A. Krieger, M.D., who headed the Pittsburgh Blind Association's low vision aids service at the Falk Clinic, died on October 29. A Krieger memorial fund has been established to provide low vision aids for needy persons. Contributions should be made to the Pittsburgh Blind Association, 308 South Craig Street, Pittsburgh, Pennsylvania 15213.

■ The "Fellowship Plan of Citizen Advocacy" is a program developed by the Pennsylvania Department of Public Welfare in an effort to "supply friendship and protection for retarded persons at all stages of their lives." The goal of the program is to match mentally retarded persons with advocates on a one-to-one basis. Volunteers from church and civic groups in each community will be encouraged to teach daily living skills such as traveling on public transportation to the mentally retarded. The volunteers will be trained through a series of sessions and workshops. There are no age or special skills requirements for volunteers, although they will be asked to visit the person to whom they are assigned at least once a week.

■ The Vision Rehabilitation Course sponsored by the Vision Rehabilitation Clinic at Boston University Medical Center, Boston Massachusetts will be held on Friday and Saturday, April 26 and 27 rather than April 25 and 26 as announced previously by the Clinic.

■ The American Association of Workers for the Blind (AAWB) will offer a job exchange service through their national office. The service grew out of the demand exhibited at the Job Exchange booth at the AAWB national convention. The service will be of value to "new people seeking their first job in work for the blind, people desiring a change of positions as well as schools and agencies recruiting personnel." For further information about the service write American Association of Workers for the Blind, Inc., 1511 K Street, N.W., Washington, D.C. 20005.

■ World Meetings Information Center has announced a service that supplies information on meetings scheduled in the sciences (physical or life sciences, medicine, engineering, etc.) to any organizer of a significant meeting. Meeting organizers will, in return, be asked to inform the Center of their meeting plans so the information can be entered into the Center's data bank. The service is offered to the scientific community at no charge. Meeting organizers wishing to make use of the World Meetings Information Center's clearinghouse service should contact World Meetings Information Center, 823 Boylston Street, Chestnut Hill, Massachusetts 02167.

■ A new brochure explains some of the things sighted persons can do in order to be helpful to blind persons with whom they have contact. The folder, *When a Blind Person Needs Assistance, Will You Know How to Help?,* can be obtained free of charge by writing to Vacations and Community Services for the Blind, 117 W. 70th Street, New York, N.Y. 10023.

Appointments

■ New York Association for the Blind, New York City: **Winslow M. Lovejoy, Jr.,** senior vice president; **Mrs. Howard S. Cullman, Wilmer H. Kingsford,** and **Mrs. Donald S. Stralem,** vice presidents; **LeRoy Clark, Jr.,** treasurer; **John L. McCormick,** secretary; **David E. Howe,** assistant treasurer; **R. Preston Searle,** assistant secretary; **Jack C. Korman** and **Fred R. Jaeckel,** members of the board of directors.

■ National Industries for the Blind: **Claude W. Hirsch** and **E. J. Robinson,** members of the board of directors; Ray Miller, vice president of the general council and board member.

■ American Foundation for the Blind: **Harry J. Link,** specialist in placement and employment, program planning.

Awards

■ Women's Committee of the President's Committee on Employment of the Handicapped, Marion Mill Preminger Award: **Jayne Baker Spain,** U.S. Civil Service Commission, vice chairman.

Coming Events

March 14-16 California Transcribers and Educators of the Visually Handicapped, 15th Annual Conference, Newport Beach, California.

March 14-17 Greater Washington Area Council of Adoptable Children, Fourth North American Conference, Washington, D.C.

April 5-6 International Association for the Study of Perception, Annual Conference, Detroit.

April 8-11 American Personnel and Guidance Association, Annual Convention, New Orleans.

April 14-19 Council for Exceptional Children, 52nd Annual International Convention, New York City.

April 25 Association for Research in Vision and Ophthalmolgy, Annual Spring Meeting, Lido Beach, Florida.

April 26-27 Vision Rehabilitation Clinic, Vision Rehabilitation Course, Boston.

May 7-8 National Braille Association, Regional Meeting and Workshops, El Paso, Texas.

May 19-24 National Conference on Social Welfare, Cincinnati.

May 24-25 International Association for the Prevention of Blindness, Conference on the Prevention of Impaired Vision and Blindness, Paris.

May 29-June 1 Association for the Care of Children in Hospitals, Ninth Annual Conference, Chicago.

June 2-8 American Association on Mental Deficiency, 98th Annual Meeting, Toronto.

June 24-29 Association for Education of the Visually Handicapped, San Francisco.

July 28-August 2 International Association of Applied Psychology, 18th International Congress, Montreal.

August 5-16 Culver-Stockton College, Workshop in Rapid Reading in Braille, Canton, Missouri.

August 7-16 World Council for the Welfare of the Blind, General Assembly, Sao Paulo, Brazil.

Classified Listings

Rates: Non-display—$2.00 per line (minimum: $10.00); Display—$13.00 per column inch (minimum: one inch). Anonymous, box-numbered ads are only accepted for personnel listings. Advertising is subject to editorial approval. A rate and information card is available on request. All correspondence should be directed to the Classified Advertising Department, New Outlook for the Blind, 15 West 16th Street, New York, N.Y. 10011.

CATALOGS

Optacon Catalog—products and services—a complete listing of Optacon Systems, Accessories, Training Course, and Training Material prices. Products are also pictured and described in detail. Write Telesensory Systems, Inc., 2626 Hanover Street, Palo Alto, California 94304.

COURSES

College Program for Blind and Visually Handicapped. Conducted by the Evansville Association for the Blind on campus at the University of Evansville. Enrollment in college credit courses beginning June 24, 1974, with supplementary instruction in O & M, Study Skills, Communication Training, and Campus Resources. For information write Evansville Association for the Blind, P.O. Box 6445, Evansville, Indiana 47712. Phone (812) 422-1181.

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NOT WITHOUT SIGHT



Not Without Sight is the American Foundation for the Blind's new film defining visual impairment.

Not Without Sight uses novel visual effects to illustrate visual impairment. A courtyard in the School of Optometry, Birmingham, Alabama, some children's toys, and felt tiles are shown here. They are used to illustrate tunnel vision, a visual impairment which occurs in glaucoma and retinitis pigmentosa.

Not Without Sight also describes, with the words of visually impaired persons, and specially conceived animation and live effects, what cataracts, macular degeneration, and diabetic retinopathy do to vision. *Not Without Sight* is in 16mm, color, is 19½ minutes long, and costs $120 to purchase and $19 to rent. *Not Without Sight* is available from the Public Education Division, AFB, 15 West Sixteenth Street, New York, New York 10011.

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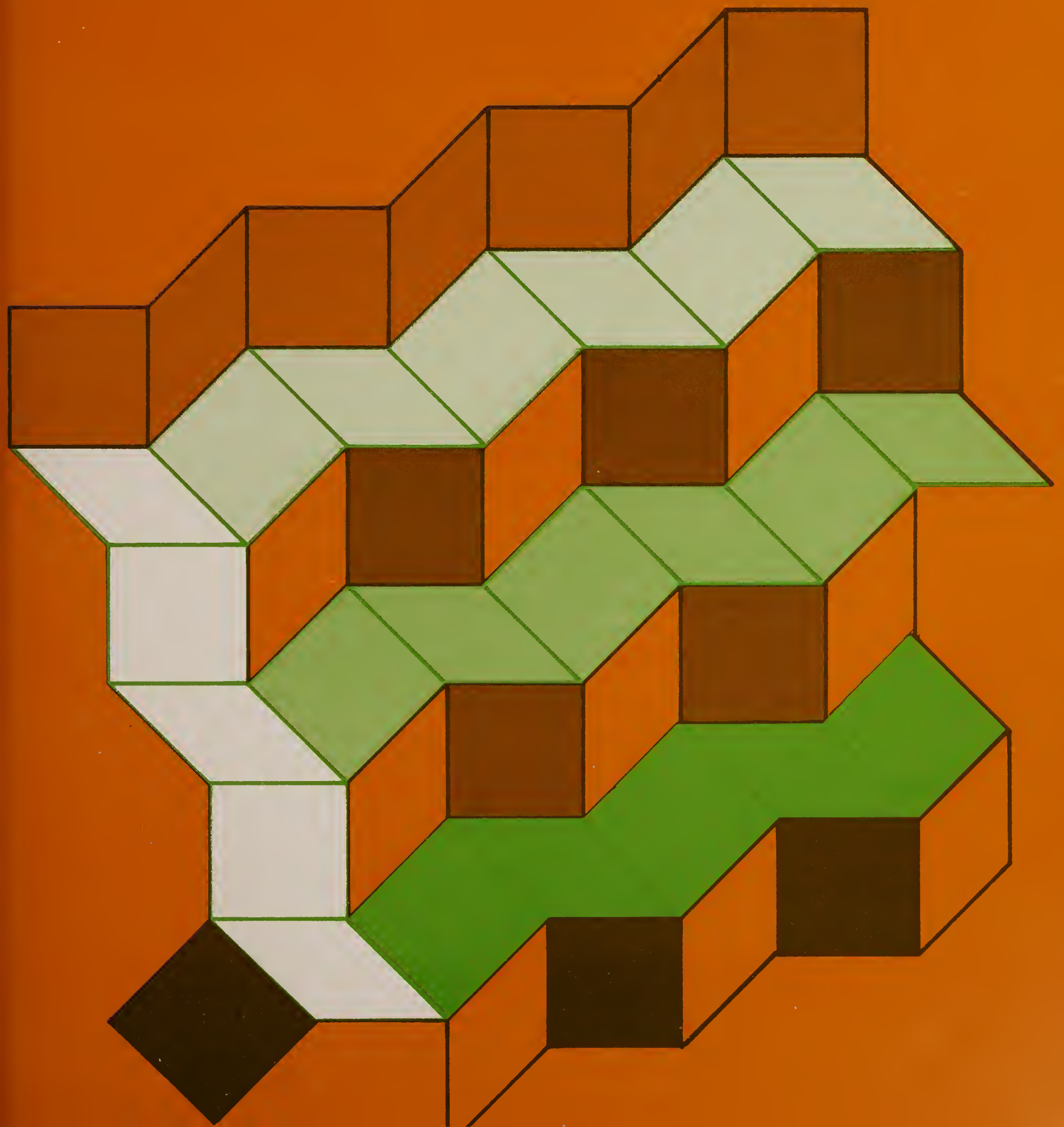
THE NEW Outlook FOR THE BLIND

April 1974 Volume 68 Number 4

A Nurse's Perspective: Blindness in Long-Term Care Facilities
Irene M. Burnside, R.N., M.S.

A Cooperative Vocational Guidance Course for Visually Impaired Students-Clients
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THE NEW
Outlook
FOR THE BLIND

April 1974 Volume 68 Number 4

Articles

145 A Nurse's Perspective: Blindness in Long-Term Care Facilities
Irene M. Burnside, R.N., M.S.

151 Recorded and Braille Textbooks: Everything the Blind Student Needs to Know
Recording for the Blind, Inc.
Gilbert Field
The National Braille Association
Helen G. Levine and *Muriel C. Lass*

157 Early vs. Late Vision: The Role of Early Vision in Spatial Reference Systems
David H. Warren

163 A Cooperative Vocational Guidance Course for Visually Impaired Students-Clients
Lillian R. Carroll and *Alfred H. LaBarre*

170 Teaching the Continental Method of Eating to Blind Persons
Edna S. Roberts

174 The Disability Seriousness Scale: Rating the Effects of Blindness
Richard T. Walls, Ph.D., A. P. MacDonald, Jr., Ph.D., and *Steven P. Gulkus*

Departments

179 Hindsight

181 Letter to the Editor

183 Review—*The Island*
See It My Way

185 Comment—Jules Coté

187 Current Literature

191 In Brief

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A Nurse's Perspective: Blindness in Long-Term Care Facilities

IRENE M. BURNSIDE, R.N., M.S.

Ms. Burnside is coordinator for nursing education, Ethel Percy Andrus Gerontology Center, University of Southern California, Los Angeles.

ABSTRACT: The blind elderly residents of long-term care facilities often have multiple, complex problems, both physical and psychological, involving loss of hearing, immobility, language barriers, brain syndrome, and depression. To care for these individuals better, more intensive in-service staff education programs need to be initiated. Experiential techniques, such as the "blind walk," are extremely potent in raising the level of sensitivity toward these individuals. Many specific suggestions for improving care are also offered.

And there she stood, as strange as
something loaned,
slowly growing old and blind,
and was not prized. . . .

—Rainer Maria Rilke

My observations about blindness in aged patients in long-term care facilities have been gathered from the perspective of three roles: a nurse formerly employed in nursing homes, a group leader of aged residents, including those who were blind or visually impaired, and a visitor.

In-service programs

The need for in-service programs in nursing homes as one means to increase and upgrade the care of the elderly has become apparent. Grants have been awarded by the National Institute of Mental Health to accomplish this end and, at this writing, some of these projects are still in operation. The need for in-service education in long-term care facilities, with specific reference to the care and treatment of their blind and visually impaired residents, is now under study by the Board of Trustees Advisory Committee on Aging of the American Foundation for the Blind.

Magnitude of the Problem

☐ There are approximately 430,000 persons in the United States who are legally blind and about one million who are functionally blind and cannot read a newspaper. Nearly one half (47.2 percent) of the legally blind in the United States are 65 years of age or older (National Society for the Prevention of Blindness, 1971). It is a well known fact that the incidence of blindness rises steadily with age.

One of the factors which affects the medical care of the aged is the phenomenal increase in the number of old people in America since the beginning of the century. In 1900 there were slightly more than three million older people in the United States. By 1970 there were over 20 million—a six-fold increase and nearly double the increase for the general population. There are now 20.1 million people in the United States who are 65 and older, or one out of every ten

This article is based on a paper originally presented to a meeting of the Board Advisory Committee on Aging, American Foundation for the Blind, Miami Beach, November 7, 1973.

Americans. The 1970 census revealed an increase of 30.5 percent in the number of people under age 45, but an increase of 63.1 percent of people over age 65. There are now one million people over age 85, and we have 13,000 centenarians. The three states which have the largest elderly populations are California, New York, and Pennsylvania; one fourth of our older Americans live in these three states (National Center for Health Statistics, 1969).

Problems of the aged

The aged who are blind must not only contend with the aging process and their blindness (tremendous adjustments in themselves), but they frequently must also cope with many other stresses as well: physical illness or debilitation, social losses, loss of income, home, and role, and waning energy. Since this paper focuses on the blind person residing in a long-term care facility, the stresses resulting from the combination of blindness, failing health, and diminishing energy will be emphasized. (See Robinson, 1973, for a sensitive portrayal of the aging person with failing vision.)

Increasing Sensitivity

☐ The first thing with which we, as professionals, must concern ourselves is the need to increase the sensitivity of the care-givers to the many problems that accompany blindness and failing vision, and to some of their consequences. Lack of sensitivity to the multiple, complex problems of the aged is widespread, and nowhere is it more apparent than in the care of blind elderly persons. One way to increase sensitivity is to implement education programs or upgrade existing ones, and to increase the use of experiential learning strategies. There are several rather well known and simple teaching methods, and they are as applicable for a class for nurses' aides as they are for sophisticated professionals. I have found one, the "blind walk," to be an especially powerful experiential teaching mechanism for all students, but especially for those who are directors of nurses and administrators of long-term care facilities.

"Blind walk"

In the "blind walk," the class is divided into pairs, one of whom is blindfolded. Then the pairs are asked to accomplish these tasks: 1) Take the "blind" partner for a drink of water or a cup of coffee. 2) Take the "blind" person for a ride in a wheelchair. Put cotton in his ears to decrease hearing ability. Now push the partner in the same fashion that you have seen your employees push some of the residents. 3) Place a tray of food in front of the "blind" person. Do not feed him, but give him directions so he can feed himself. After this, the roles are exchanged.

Feelings and reactions

I am sure there are other experiential methods, but I have found these three to be extremely powerful. Both persons in each pair experience the temporary blindness. If this teaching method is used, ample time must be allowed for the students to discuss their feelings and reactions to the exercises. It is useful to write the descriptions of feelings and reactions on a blackboard and then compare the similarity or dissimilarity of the experience. The exercise also zeros in on the multiple sensory deficits that many aged persons experience and the apprehension, fear of falling, being tipped out of the wheelchair, disorientation, and physical reactions, such as dizziness, nausea, etc., that they feel.

In a class of nursing home administrators and directors of nursing, one administrator, a former Navy pilot, said he could not be blindfolded and get into a wheelchair because it would make him sick. Our students have been astounded at the fears, apprehension, and disorientation they themselves have experi-

enced during such experiential exercises in the classroom. Some vowed to change some of the practices in their own facilities.

Results

Such classroom experiences maximize learning in several ways: 1) they increase the student's empathy about blindness; 2) they increase the student's awareness of barriers in the environment which increase the difficulties faced by the blind resident; 3) they increase awareness of the multiple sensory deficits, not just one, with which some aged individuals must struggle; and 4) they offer interesting and effective methods of teaching which can be used for in-service education.

In-Service Education

☐ Educators also have an obligation to increase the knowledge and the understanding of blindness and failing vision. Caretakers need information about the normal aging of the eye. Knowledge about decreased vision, night blindness, and the problems unique to the night-time care of aged persons will ultimately, I believe, improve patient care.

Night personnel

These areas have been sadly neglected in the care of institutionalized elderly persons. Special in-service classes for night personnel are necessary to improve around-the-clock care. In-service education should meet the peculiar and special need of each staff; too often it has been geared toward and designed for day personnel only. Let me give an example. It has been established by research that the sleep patterns of the elderly differ from those of the younger person. And the following illustrates what can happen. An 85-year-old blind man in a group I conducted in a convalescent hospital did not show up for a meeting one afternoon. This was most unusual, for he was never absent; in fact, he had attended one session when he really was quite sick. I excused myself from the group and went to check on him. I asked Mr. C. why he was in bed, and he replied that he'd just finished supper and that it was therefore time for bed. Further questioning revealed that the noon meal had been like one usually served to them at 5:00 p.m. On that basis he had decided it was nighttime (Burnside, 1970). He, like many others, uses such small cues in the environment to help him function. How sensitive even a meal-planner needs to be in an institution for the elderly.

Multiple Problems

☐ The special problems for nursing care created by the combination of age, blindness or failing sight, and such problems as failing hearing, immobility, language barriers, acute or chronic brain syndrome, and depression need to be examined more closely. Such combinations of problems are not easy to handle and, since the nurses' aide is the one who gives the bedside care, we are faced with providing a very complex kind of in-service education.

Hard-of-hearing

It is felt by some that the elderly hard-of-hearing tend to be suspicious. It has been my experience, as a nurse, that hard-of-hearing elderly persons are less approachable than ones who are only blind and, because of their suspicion and mistrust, it is best to move slowly with them. Unfortunately, hard-of-hearing persons are sometimes mistakenly thought to be stupid or apathetic because of the vacant stare sometimes observed in them.

Immobility

Blindness and immobility is also a difficult combination. Blind persons who must sit in a wheelchair all day may hallucinate because of their isolation and alienation. They can listen to music or to talking books, but participation in the activities of a facility is often impossible for them. In group work with

blind persons in wheelchairs it is important to keep them close to others so they can hear and reach out and touch one another. But this is also true of ambulatory blind persons.

Language barrier

The blind elderly person who speaks little or no English is also very isolated. Abarca (1973) vividly describes the lack of human contact and communication that often occurs with a non-English-speaking client. It is not uncommon to find non-English-speaking persons, and one needs to make a special effort to teach them. Often they are isolated and alone for long periods of time in institutions, except perhaps for meal-time interactions.

Brain syndrome

The problem of caring for the brain-syndrome patient is difficult, but it becomes an even more complex problem when that individual is also blind. Constant reality-testing, through touching, is a means of decreasing sensory deprivation and is all important (Burnside, 1973). Staff members sometimes have to realize that the prevention of regression is an important goal in the care of these persons.

Depression

Depression is one of the common mental problems among the aged. Often they are depressed because of a loss and it is not uncommon for elderly persons who are losing their vision to have spells of varying degrees of depression. In-service educators in programs for visually impaired and blind persons will need to take this into account and intervene appropriately.

Case Study

☐ The following brief case study, written as a summary for a group member when the group experience had been completed, will illustrate many of these points. "Mr. B., age 86, participated in 33 group meetings for a period of 15 months with a group of five other patients, all of whom were also diagnosed 'chronic brain syndrome.' He was blind and confined to a wheelchair. He missed two meetings because of a heart condition requiring bed rest and oxygen therapy.

First group meeting

"In the initial meeting of October 18, 1972, Mr. B. directed his eyes toward the ceiling, and talked to someone else besides the group leader or members. In the first session his main topic of conversation included food, fishing on the Mississippi in his youth, and his job as railroad porter; he talked sensibly about these. He was polite, responsive, but not always easy to understand; he had developed the habit of turning his head so far back to speak to the person beside him that the unusual position of his head and the strain on his neck muscles had altered his speech.

Improvement

"Throughout the past year, Mr. B. was constantly alert; his hallucinating in the group diminished. He had an outgoing, affable way about him; his blindness put him at a real disadvantage, however, for he often missed out on what was happening in the group and it had to be repeated or explained to him by the leader. Blind persons cannot read lips or see the non-verbal behaviors of other group members; therefore, I touched him a lot and explained to him in detail what was happening.

Suggestions

"*Suggestions*: 1) Increase his sensory stimulation and interpersonal relations; this should help to diminish his hallucinations (which I feel are due to sensory deprivation and loneliness). 2) Provide some means for him to listen to music, which he enjoys so very much. 3) Secure talking books for him. If there are other blind or physically handicapped patients, a weekly "listeners" group

could be formed to replace this group meeting. 4) Involve in a remotivation group when there is one. 5) Move Mr. Z. into the room with him; both are from Louisiana, both speak *patois* French, and they now have a one-year friendship resulting from their group experience. 6) Consider tasks he could do even though he is blind, e.g., fold wash cloths or linen, to increase his feeling of usefulness."

The following are some practical suggestions which may be helpful in dealing with aged persons who have failing vision or are blind. Although devised for long-term care residents, these may apply to aged persons in board-and-care facilities or even those living at home.

Working With the Visually Handicapped

☐ For those with failing vision:

1. Make sure the individual has adequate lighting at all times, especially for reading, sewing, writing, and similar activities.
2. Avoid bright glare, e.g., highly polished floors, enamel walls, windows without curtains or shades.
3. There should be a soft light on at night, especially in the bathroom, kitchen, or other areas where the individual is likely to go at night.
4. Old people should be discouarged from taking long drives at night because of "night blindness."
5. Large print newspapers (*New York Times*) and magazines (*Reader's Digest*) should be made available.

Large print materials

6. There are many useful aids that can be procured, e.g., ordinary-size playing cards with enlarged figures and over-sized "jumbo" cards.
7. Talking book records and machines can be obtained free from the Library of Congress.
8. Face the individual when speaking.
9. Wear bright red lipstick to facilitate lip-reading.
10. Do not cover your mouth when speaking.
11. Do not smoke or chew gum when speaking to such a person.
12. All elderly persons should have pockets in their clothing for carrying treasured things.
13. It is important for them to have a transistor radio.
14. Special dials for phones are available which enlarge the numbers and glow in the dark.
15. Do not move furniture or belongings around without explaining what you are doing and why.
16. Give detailed instructions for anything you plan to do. Wheelchair patients in particular need to be told about obstacles, warned they will be pulled backwards, etc. to diminish their fear.

Detailed instructions

17. Large clocks and large calendars are a must for orientation.
18. Do not use colors which merge, e.g., white dishes on a white table, beige light-switches on beige walls, etc.
19. Eye glasses must be cleaned often and the prescription checked to see if vision is corrected properly (Burnside, 1972).

Working With Blind Persons

☐ For those who are blind:

1. Directly face the person when speaking.

2. Touch the person; a handshake helps them place where you are.
3. Pockets on clothing are a must.
4. A transistor radio for each blind person.
5. A rope or cord to the bathroom to guide them may be useful; be careful so it is not a hazard, however, or the person may trip over it.
6. Do not move things around, either personal belongings or furniture.
7. Take the glass off a clock so person can tell time by touch.
8. Devise a calendar with raised letters.
9. Arrange for talking books, available free from the Library of Congress. *Talking books*
10. Speak clearly, slowly, and distinctly, while facing the older person. If the person's attention span is short, or if he is confused, it is helpful to touch him while you speak. For elderly patients who hallucinate, it is especially important to touch them while you are speaking to them.
11. Speak before you touch the person, however, or you may startle him.
12. Check out the hearing; if it is impaired, you may have to move in closer to them, or talk directly into their ear.
13. Face them (do not talk from behind them) to improve hearing.
14. Give detailed instruction about all things you plan to do; there are no non-verbal or visual cues to assist him. In group meetings, especially, explain to the blind person what is occurring.
15. Do not leave a blind aged person alone in his room for long periods of time; he may begin to hallucinate.
16. Do not change their daily schedules—they often judge the time of day by the day's regular events; they do not have dawn and dusk for reminders.
17. Use as many external cues as possible, e.g., clocks that chime, noon whistle, intercom, radios. *External cues*
18. Constantly use sensory stimulation through touch, sounds, and smells, since visual stimulation is absent. Increase such stimulation if there are signs of apathy, or withdrawal, or a diagnosis of brain syndrome.
19. The newly blinded individual should be told about his disability in a straight-forward manner in order to decrease the impact of the disability (Cull, 1973).

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Recorded and Braille Textbooks: Everything the Blind Student Needs to Know

ABSTRACT: Recording for the Blind, Inc., provides tape recorded textbooks to blind high school and college students and others by either making a copy of one of the 23,000 titles already recorded and located in its Master Tape Library or by having it recorded at one of its 23 recording units. Textbooks in braille are prepared by certified volunteer transcribers all over the country. Master copies of over 1,100 textbooks, from which thermoform duplicates can be made, are located in the Braille Book Bank of the National Braille Association. Nearly 200 scientific and mathematical tables in braille are available through the Association's Braille Technical Tables Bank. The Instructional Materials Reference Center maintains a Central Catalog of braille books and their location in various other depositories. Full instructions for the use of these various services are included in this two-part article.

Recording for the Blind, Inc.

GILBERT FIELD

Mr. Field is associate director for public information, Recording for the Blind, Inc., New York City.

With the increasing integration of blind and sighted students throughout the nation, the free recording and library services of Recording for the Blind (RFB) stand out as a major resource for blind Americans pursuing the equal education that is their right. Together with brailled literature, recorded textbooks are a basic means of overcoming the loss of a primary learning skill, the ability to read. At college and post-graduate levels, it is particularly helpful to have books of great size and complexity in listenable, tape-recorded form. When prepared with care and authority and supplied on time, they can measurably improve a blind student's potential for success in normal classroom situations.*

10,146 borrowers last year

Recording for the Blind's expanding voluntary work turns on that fact. The national organization provides taped educational books, free on loan, to visually, perceptually, and physically handicapped elementary, high school, college, and graduate students, and to adults who require specialized reading material to acquire, maintain, or improve professional and vocational skills. During the 1972-73 academic year, RFB delivered 64,275 recorded books, representing over 380,000 reels of tape or 1,500,000 hours of reading, to 10,146 borrowers in all

* A helpful new pamphlet, "Guide to Effective Study Through Listening," by Carson Y. Nolan, Roy J. Brothers, and June E. Morris, was recently issued by the American Printing House for the Blind, Inc. Students, counselors, and instructors may obtain a complimentary copy from Recording for the Blind, Inc.

50 states; this includes 63 percent of all blind high school students and virtually all blind college and graduate students.

Master Tape Library

☐ RFB not only records new books on request, but stores master tapes of all the titles it has recorded in its central Master Tape Library, housed in New York City. Individual tape copies are made from these masters as requested. There are over 23,000 titles currently available in RFB's Library, tape copies of which may be borrowed by eligible students for as long as needed. An average of 350 newly recorded titles are being added each month to the Library.

Application form

Here is how you can use the services of Recording for the Blind. First, *it is important that every new borrower complete an application form*, which can be obtained by writing to the Circulation Department, Recording for the Blind, Inc., 215 East 58th Street, New York, New York 10022, and requesting an Information Kit. RFB's new 1,127-page *Catalog of Tape Recorded Books*, handily indexed by both author and subject, may be purchased for $2.00.

Ordering Recorded Books

☐ To order books already recorded and therefore to be found in the *Catalog*, list all the titles that you need. Use RFB order forms whenever possible; otherwise, be sure to include all the information requested on the order form: author, title, copyright date, edition, shelf number (if known), etc. *Also list all titles you wish which do not appear in the RFB* Catalog; they may have been recorded since the latest one was issued. RFB will promptly inform you which completely recorded titles it can send you at once and which will be recorded and mailed to you in two-hour installments, if so requested.

The tape copies

Tape copies of titles in the RFB Library are supplied on 1-7/8 ips, four-track tape only, on five-inch reels. New books recorded at RFB Units are supplied on 1-7/8 ips, two-track only, on five-inch reels, in order to expedite the mailing of two-hour installments. (As this goes to press, RFB is conducting a pilot project on a four-track, 15/16 ips tape cassette. If this new study cassette checks out under heavy-duty use, it will be made available to RFB borrowers in gradually increasing numbers later in 1974. For open-reel tapes, RFB recommends the APH-modified Sony 105, specially adapted for page-indexing and equipped for variable speed, available from the American Printing House for the Blind, Inc., 1839 Frankfort Ave., Louisville, Kentucky 40206.)

Ordering Unrecorded Books

☐ Books not yet recorded by RFB may also be ordered. Over 4,000 trained volunteers, including highly specialized and technical readers and proofreaders, are at your service. They contribute their time and talents at the following RFB locations: Phoenix and Sun City, Arizona; Claremont, Los Angeles, and Palo Alto, California; Denver, Colorado; New Haven, Connecticut; Miami, Florida; Athens, Georgia; Chicago, Orland Park, and Winnetka, Illinois; Louisville and Anchorage, Kentucky; Lenox and Williamstown, Massachusetts; Detroit and Bloomfield Hills, Michigan; Princeton, New Jersey; New York, New York; Oak Ridge, Tennessee; Austin, Texas; and Charlottesville, Virginia.

Two print copies

Inasmuch as all recording is simultaneously proofread by a monitor to insure accuracy and audio quality, *borrowers must supply two print copies of each title to be recorded.* If you wish, you will be reimbursed for one copy, and the other one will be returned when the recording is completed. Always write your name and address in pencil on the flyleaf of each copy and include a

completed order form (and reimbursement slip, if reimbursement is desired). Books may be either taken to an RFB Recording Unit or mailed to the Circulation Department, Recording for the Blind, Inc., 215 East 58th Street, New York, New York 10022. For fast delivery, use First Class and/or Special Delivery postage.

Master Tapes

☐ Whenever possible, books are assigned to the RFB Recording Unit nearest you. Installments will be mailed to you directly from the Unit, as recorded, until your book is completed.

State educational facilities and other agencies serving the blind can help RFB provide more recorded texts to a greater number of elementary and high school students by installing their own duplicating equipment. In that way, master tapes supplied by RFB may be kept permanently and copies made for local students as needed. To insure the best duplication, master tapes will be supplied on 3-3/4 ips, four-track tape, on 5-3/4-inch reels. RFB's services to individual borrowers are free of charge. Agencies, however, that wish to retain RFB tapes permanently are asked to defray the cost of producing the master tapes.

The National Braille Association

HELEN G. LEVINE

MURIEL C. LASS

Ms. Levine is president of the National Braille Association; Ms. Lass is materials coordinator for the visually handicapped, Cincinnati Public Schools.

The present system of providing braille textbooks to blind high school students, whether in residential schools or in public school programs, does not in any way prepare them for the problems the college-bound among them will encounter in securing textbooks during their college or university years. The traumatic shift from the protected high school atmosphere and direct services to the independent scramble of each individual student for materials can be minimized, however, if proper procedures are understood and followed. Even with the services of a live reader and the availability of tape recordings, the serious student also needs braille, particularly for mathematics, science, foreign languages, statistics, and computer science. In the case of certain text materials, the only meaningful transcription of the printed word is in braille, since it offers the student greater freedom to read, study, and review at his own pace. Beyond this, braille is the only medium in which no middleman or interpreter stands between the student and the books, as is the case with tape recordings and live readers.

Need for braille

The student must recognize first that, contrary to his high school experience, he now has the responsibility for buying his own textbooks. He shares with all incoming college students the necessity of planning his program and learning what texts have been assigned for each course. Unlike the sighted student, however, it is necessary for him to have this information well in advance of the

Student responsibility

beginning of each semester in order to locate existing material or to have new books transcribed. Counsellors, teachers, and parents may assist the student in this process, but the knowledge of how to do it and the chief responsibility for carrying it out should rest with him.

NBA Braille Book Bank

☐ The prime source of braille college and graduate texts in the United States is the Braille Book Bank (BBB) of the National Braille Association (NBA). Located at 85 Godwin Avenue, Midland Park, New Jersey 07432, the BBB maintains a collection of over 1,100 titles of volunteer-produced braille books at the college and graduate level. It sells thermoform copies of these books at approximately the cost of the print edition, with the balance being subsidized by the organization. NBA encourages volunteers who braille college material to deposit the braille masters with the BBB so that their work may be duplicated on order and thus made available to all. In addition, blind students who have used a master braille copy made especially for them will frequently send it to the BBB after they have used it. This national repository for college texts, established in 1963, has expanded over the years and will continue to grow through the cooperation of the volunteers who transcribe and send their masters directly to the BBB, the students who share books made for them, and the entire membership of the National Braille Association which provides financial support for the Braille Book Bank.

BBB Catalog

The 1973-74 *BBB Catalog*, in print or braille, is available for $1.00; the 1974-75 *Supplement* will be sent at no extra charge to purchasers of the catalog. In a growing operation, a catalog is out-of-date even before it leaves the printer, so if they do not find the needed title, students should write the Braille Book Bank to inquire if it has been added to the collection since the catalog was published. The proliferation of similar titles and the fact that many authors write a number of books on the same subject means that just the title and author's last name are insufficient for locating a book. The complete title, the author(s) or editor(s) full name(s), the publisher, the date, and the edition should be sent in print or braille.

Braille Technical Tables Bank

☐ For the benefit of students (or blind teachers) of mathematics, chemistry, and other sciences using mathematical tables, the National Braille Association also maintains the Braille Technical Tables Bank (BTTB). Established in 1972, the BTTB will duplciate on order any of its almost 200 tables. To order, it is necessary to send one page or a photostatic copy of one page of the actual table required, since a name or description may fit several different tables. If the BTTB does not have the table among its master copies and cannot recommend a substitute, it will, upon request, instruct the student's transcribing group in the proper format for the braille transcription, or will try to arrange to have the table transcribed elsewhere. A pictorial catalog of available tables is now being prepared. All inquiries should be sent to NBA Braille Technical Tables Bank, 2100 North Woodward Avenue, #108, Royal Oak, Michigan 48073.

IMRC Central Catalog

☐ The Instructional Materials Reference Center, American Printing House for the Blind, 1839 Frankfort Avenue, Louisville, Kentucky 40206, maintains the Central Catalog, a card file of hand-transcribed elementary and secondary school books in braille which have been registered with them by volunteer

transcribers. Some "advanced placement" and "bridging" books registered there may be useful to college students. Upon written request, the Central Catalog will send the name of the depository in which any title registered with them is located. The student must then write to the depository to determine if a copy of the book is available. It should be pointed out that only in some cases does the depository—an individual, group, or agency—have duplicating facilities and, therefore, the capability of making and selling thermoform copies of its braille master. Some depositories without duplicating facilities of their own will send their master copy to be thermoformed elsewhere, with the student paying the cost. While individuals who are depositories may be willing to lend the book if they have finished using it, or lend it long enough to have a copy made, they are understandably reluctant to let a book leave their hands unless they are certain they have no further use for it.

Donation of master copies

Even though a required book may already have been transcribed, locating a copy for use is a time-consuming and expensive procedure. For this reason we urge all owners of hand-transcribed master copies of college and graduate material to offer them to the Braille Book Bank, which has duplicating facilities, for permanent deposit. This system has been in operation for more than ten years and it gets books efficiently, promptly, and inexpensively to students who need them. Any owner of a braille book accepted by the BBB will be given a thermoform copy of it, if he needs it or wants it, at no cost to him.

Known volunteer groups

If the student has had contact with a transcriber or transcribing group with the skills to braille the subject involved, a request to them is most likely to produce results. Many local groups committed to producing work for their own area are nonetheless pleased to follow a successful high school graduate and to continue to assist him through his college career. However, it is recommended that the student himself check the availability of the text with all possible sources before making such a request. Volunteer transcribers are not expected to do this for college students unless the transcribing group specifically offers this service. If it does not, such a request is an imposition on the skilled volunteer's time—time which could be better spent at the braillewriter. Further, checking on availability reduces the chance that a braillist will be asked to repeat work which has already been done. This kind of respect for the volunteer's skill and effort is the only way there will ever begin to be enough time to braille the tremendous amount of reading material which is available in print and is needed by students.

Library of Congress Listing

☐ If no transcribers are known to the student, or those he knows cannot fit his request into their work-load, he should consult *Volunteers Who Produce Books*, a listing of transcribing groups throughout the country. This publication is sent free of charge by the Library of Congress, Division for the Blind and Physically Handicapped, 1291 Taylor St., N.W., Washington, D.C. 20542, and all students should write for a copy. Although it is not the purpose of the NBA Braille Book Bank, it can often help a student find a transcriber—if there is an indication that the title will be required by other users of BBB services.

Substitute texts

Many times it becomes possible for an instructor to substitute one title for another if he understands the length of time involved in producing braille. If

the student learns of the availability of a braille copy of another text containing similar material, he should so advise the instructor. Alternately, he should ask the instructor to suggest acceptable substitute texts. The Braille Book Bank collection is cataloged by author, with an index by title; in order to facilitate the possibility of using substitute texts, however, the BBB has recently prepared some separate lists of titles by subject. Subject areas for which such lists are available will be printed in the 1974-75 supplement to the current 1973-74 catalog, and in all subsequent catalogs. The student may send directly to the BBB for a list of titles, which he and his instructor may then use in choosing a substitute text or supplementary reading in a particular subject area.

Comparing editions

If a text has already been brailled, but in an earlier edition than the one assigned, a comparison of the two may reveal that there are only negligible differences between them. Sometimes editions differ only in one part of the book, such as the last chapter of a history book, and this can be "updated." The student would be wise to ask the instructor about this and to make comparisons wherever possible before requesting a complete, new transcription.

Early Planning

☐ The blind student must help the instructor understand that, unlike the sighted student, he cannot go to the college bookstore and buy a braille book from the shelf. Making a braille book takes time, and even finding a book that has already been brailled can be a prolonged process. The student must plan his program early and consult his instructors as soon as he has selected his courses; he can then begin to locate his books well in advance of when he will need them. Even with all these precautions, there will always be some assignments made today for reading tomorrow, and these can never be brailled in time. However, such situations can be kept to a minimum with proper planning and by following the procedures suggested here. There will continue to be increasing numbers of braille titles available from duplicating centers as long as we have enterprising students, understanding instructors, and the vast network of willing volunteer transcribers.

Coming in the Next Issue

The May 1974 issue of the *New Outlook for the Blind* will be devoted exclusively to articles on family life and sex education programs for blind and visually handicapped children and youth. Contributors to this special issue include Derek Burleson, Emerson Foulke, Ruth V. Holmes, Mary L. Karpen, Geraldine T. Scholl, and David S. Torbett.

Early vs. Late Vision: The Role of Early Vision in Spatial Reference Systems

DAVID H. WARREN

Mr. Warren is assistant professor, College of Social and Behavioral Sciences, University of California, Riverside.

ABSTRACT: Support for the hypothesis that the early visual experience of adventitiously blind persons gives them a visual frame of reference after the onset of blindness is found in studies of tactual form discrimination and finger maze learning and in experiments involving "extended space." The length of early visual experience is an important factor and is related to the progressive establishment of cross-modal correspondences in the early months of life.

There is a good deal of common sense support, and some research support, for the notion that human spatial behavior depends to a large extent on vision. We guide much of our motor behavior visually, and we make visual responses to auditory events in space. Besides providing very detailed, ongoing, spatial information, vision may also provide an organizational framework or reference system for the interpretation of spatial information in general, including that information obtained via the other spatial modalities.

Hypothesis

☐ The apparent dependence of sighted people on vision for their spatial behavior raises obvious questions about the possible role of vision in the spatial behavior of blind persons. Are there differences between the congenitally or very early blind and those people who have substantial early visual experience and become blind later? What is the effect of the early visual experience? Does it retain effectiveness in providing a spatial structure or does the adventitiously blind person come to structure his space in the same way as the congenitally blind person? One hypothesis about the function of vision for the later blind is that having had vision for some time, they retain a visual frame of reference. Infants and young children tend to look toward sources of sound, and they tend to track and direct their motor movements, especially hand movements, visually. The result of this accumulated practice in associating spatial events with visual locations is that a visual framework is built up. Even though the later blind child does not continue to receive direct visual input, the organizational function of his visual experience continues to be effective after the onset of blindness.

I want to review some highlights of the evidence with respect to this hypothesis. There are some marked differences between the early and the later blind, and I think there is information here that can provide a perspective on the role of vision in spatial behavior and the development of spatial reference systems.

Near-space studies

There have been numerous studies using tactual form discrimination and finger maze learning. I group these types of studies together because they both involve hand performance, close to the body. The results of these studies pro-

This article is based on a paper originally presented at the biennial meeting of the Society for Research in Child Development, March 1973.

vide a clear indication of the advantage enjoyed by the later blind. An example of such a study is one reported by Worchel (1951) in which he compared congenitally with adventitiously blind people on several tasks of form recognition and discrimination. In one experiment, he presented the subject with a cutout block and had the subject draw the form, describe it verbally, and choose a match from a set of four alternatives. In a second experiment, he gave the two parts of a form to the subject's two hands and asked for reports of what the combined form would be. In both tasks, the adventitiously blind performed better. Furthermore, within the adventitiously blind group, Worchel found a significant positive correlation between performance and the amount of vision that the subject had had before becoming blind. Worchel's study is representative of research with this paradigm: it shows a distinct advantage conferred by early vision.

Extended-space studies

There have also been a number of studies requiring performance in what could be called "extended space," as opposed to the "near-space" tasks that I have just talked about. Worchel (1951) reports such an experiment in the same paper, where he led subjects along one or two sides of a triangle and asked them to complete the right triangle. On this task, Worchel found no differences between the same two groups that had shown differences on the near-space tasks. Another example of an extended-space task is reported by Cratty (1967), who assessed the so-called "veering tendency" of blind persons. Cratty's results are complex, but there are a couple of clear differences. Most important, he found that subjects blind from birth veered less than adventitiously blind subjects. This contradicts the trend from the near-space tasks. However, Cratty's group also reports an experiment in which subjects were required to walk along curved paths of varying radii, where the adventitiously blind subjects performed much better than the congenitally blind (Cratty, Peterson, Harris, & Schoner, 1968).

Veering tendency

Thus, when we look at the extended-space studies, the pattern of differences between congenitally and adventitiously blind is not as clear as for the near-space performance. Why should there be this complexity in the pattern of results? Several factors are undoubtedly involved. One such factor may be the length of blind experience. In fact, Cratty's study on veering from a straight line showed that the longer the subjects had been blind, the less they veered. Other studies in which correlations between the length of blind experience and performance were sought have typically not found significant relations. I think this ambiguity may be resolved by noting that the two factors, length of blind experience and length of early vision, are not independent. That is, the more early vision a person of a given age had, the less experience he has had at being blind. The length of early vision seems to have a much stronger effect and, on tasks where early vision does confer an advantage, any effect of the length of blind experience may be overshadowed. Another factor that is undoubtedly involved is the complexity of the task. It seems to be on the more complex tasks that the length of early vision is important, and on the relatively simple tasks, such as walking in a straight line, that the effect of length of blind experience is allowed to emerge.

Auditory and tactual localization

Fisher (1964) reports some extremely interesting work comparing auditory

and tactual localization of blind and sighted subjects. The blind subjects were about equal to the sighted subjects at locating simple auditory or tactual targets. However, when they were asked to compare the lateral locations of successively presented auditory and tactual targets, that is, a more complex, cross-modal task, the blind were much worse. There is a great deal of variance in Fisher's results, and while he points out that two of his subjects had had several years of early vision and three were congenitally blind, he unfortunately does not specify which results belong to which subject. In a subsequent experiment, Fisher provided the subject with either an auditory or a tactual "reference point" directly before the comparison trial began. The performance of the blind subjects was substantially improved by this procedure, while that of the sighted subjects was not affected very much. It seems possible that the sighted subjects were not aided by this reference point because even with their eyes closed, their visual organization of space continued to provide an effective reference system within which to compare the auditory and tactual locations. Providing the sighted subjects with a tactual or auditory reference point before each trial did not improve on this visual frame of reference, while even the very simple reference point did improve the performance of the blind, whose spatial organization lacks the visual framework.

Reference point

☐ It is obvious that the visual frame of reference notion carries important implications for intermodality organization. A group of studies that bears more directly on the organization question looks not for differences in quality of performance between congenitally and adventitiously blind persons, but for differences in the type of performance. Pick, Klein, and Pick (1968) studied the visual and tactual form orientation judgments of normally sighted, partially sighted, and totally blind subjects, age six years to adult. The subject was presented a pair of forms, one upside-down with respect to the other, and was asked to choose which of the forms was upside-down. Since the forms were letter-like nonsense forms, there was in fact no correct answer. The sighted subjects gave visual responses that indicated a strong consistency in orientation judgment over age. Their responses to the tactually presented forms, however, did not show consistent orientation judgments. The group of totally blind subjects also failed to show consistent tactual judgments, suggesting that they had also not acquired an organization of the tactual mode parallel to the visual organization of the sighted subjects. The partially sighted subjects, though, showed an interesting pattern of tactual judgments. Their judgments did show consistency, and the pattern was similar to the pattern of visual judgments of the sighted group. The effects of the partial vision seem clear: although these subjects were legally blind, they retained enough visual influence to structure their judgments of tactual stimuli. The fact that the structure was similar to that of the sighted subjects' visual structure is important; it indicates that the visual effect is not an influence toward tactual structuring in general, but rather a specific influence toward structuring in a particular way. The fact that the totally blind subjects did not show any tactual structure is especially important; it suggests that some visual influence is necessary to produce any tactual structure at all.

Intermodality Organization

Results of experiment

A Study With Young Children

☐ A study by McKinney (1964) with young children serves to illustrate a similar point. The subject held his hand palm-up on the table with his eyes closed. The experimenter touched one finger, then after a three-second delay, the subject pointed with his other hand to the finger that had been touched. Three conditions differed according to what had happened during the delay. In one condition, nothing happened; in a second, the experimenter turned the subject's hand over before response; and in the third, the experimenter turned the subjects hand over, but returned it to the original orientation before response. The four- to six-year-old sighted subjects made significantly more errors in the second condition than in either of the conditions where response was performed with the hand in its original position. A group of congenitally blind children was tested in the same way, and a different pattern of results emerged. They made the most errors in the double-turn condition, least in the no-turn, and an intermediate number in the single-turn condition. McKinney suggested that the sighted subjects formed a visual image of the hand and the stimulated finger. In the single-turn condition, this visual image was in conflict with the actual turned position of the hand, and in fact performance was worst in that condition. In the no-turn and double-turn conditions, the position of the image was consistent with the actual hand, and fewer errors were made. The congenitally blind children could use no such visual image, and their performance deteriorated steadily as the number of intervening operations on the hand increased. Thus, the effects of visualization in this tactual task produced a different type of functioning for the blind children than for the sighted.

Performance

Cross-Modal Correspondence

☐ The visual organization hypothesis, therefore, finds some support from these areas of research. The performance differences between congenitally and adventitiously blind people on the more complex spatial tasks point to the enduring efficiency of the visual frame of reference even after the loss of vision. Earlier, I mentioned a tentative notion about how such a frame of reference might be built up. For auditory spatial information, this may occur through the countless instances of hearing a sound-producer, looking, seeing a sound-producer, and associating the sound-location cues with the visual position. There is some recent evidence that even very young infants are sensitive to the correspondence between visual and auditory information. Aronson and Rosenbloom (1971) found that four- to eight-week-old infants showed distress when their mothers' voices were displaced in space from their apparent visual position. It is not difficult to imagine the gradual refinement of this very early tendency to integrate auditory and visual spatial information.

Early Development

☐ In the case of visual-motor relations, much more is known about the early establishment of cross-modal correspondence. This development may be viewed in various ways. Piaget (1952) speaks of visual and motor schemas, initially independent, which normally become coordinated around three to four months of age. White and Held (1969) describe the infant's progress from the "swiping" stage, around 70 days of age, to mature, visually-directed reaching, around 150 days of age. However the process is described, human infants start off with no visual direction of their motor behavior and, during the first year, they normally acquire a great deal of eye-hand coordination. I suggest that this

Eye and hand

development may in fact be one of the most important differences between congenitally and adventitiously blind children. If the infant does have vision during the period when his manual activity normally comes under visual control, he acquires a basic integration of the manual and visual modes. It may be this integration that provides an enduring basis for the more effective use of motor information that seems to characterize the later blind. Thus, the first few months of life may indeed be a sensitive period for the organization of spatial behavior.

Locomotor behavior

It seems reasonable to suggest a second such period centered around the development of crawling and walking. Having vision during this time may allow the establishment of a visual organization for the locomotor behavior that takes place in the more extended environment that is accessible to the walking child. The principle that I am suggesting is the same in this period as in the eye-hand period: having vision simultaneously with the motor function allows registration of the motor function and its perceptual effects in a visual framework. This seating of the motor function in a visual framework allows more precision of the motor behavior itself and, for the child who is later to become blind, it will allow continuing referencing of motor behavior to a visual organization of space.

Acquisition of language

A third sensitive period, when the concurrent experience with vision and another function may be especially important, is related to the acquisition of language. Several of the people who have reported studies on the motor behavior of the adventitiously blind (e.g., Knotts & Miles, 1929) have also reported on their subjects' strategies in solving problems such as maze learning and form perception. In general, they report that subjects who use verbally-based strategies are more successful than subjects who use so-called "motor" strategies. Further, the later blind have been found to report more visual images than the early blind (Schlaegel, 1953), and to be better able to use concepts involving spatial relations (Hartlage, 1969). It seems reasonable to expect differences in verbal mediation abilities that would be related to the age at onset of blindness. Specifically, if a child lost vision before he had developed language to the point of labeling the spatial relations that he experienced visually, his later verbal mediation might be less effective than if he had had concurrent verbal behavior and visual experience before becoming blind. The implications of this developmental era seem especially important for the adventitiously blind, since it is known that many of the mobility and spatial orientation successes of blind persons are based on verbal mediation and memory.

Implications

☐ What does all this mean? Certainly, if there is anything to this hypothesized progression in the development of visually-based reference systems, there are implications for the mobility training of blind persons. It seems clear that the most effective mobility training approach might be very different depending on the stage of development of the visual reference system at the onset of blindness. Research on the spatial abilities of the blind is important, as is the design and testing of differentiated approaches to mobility training. These approaches ideally should take the early vision factor into account. Before this can really be done effectively, though, we need much better research with blind persons.

Better research is needed

Researchers are often guilty of not reporting details of the visual histories of their blind subjects, and of grouping together subjects with widely differing characteristics. The evidence on the importance of early vision is suggestive enough to warrant detailed study of this factor.

There are also implications for the development of normal spatial behavior. I have suggested specific periods of sensitivity. There may be other periods qualitatively or quantitatively different from these and warranting distinction. It may be that a close examination of the experience that children receive in these various periods would provide a start toward accounting for some of the impressive individual differences in spatial behavior that we can presently only describe.

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Howe Society Hosts Aids Exhibit

The Howe Society of the American Council of the Blind is sponsoring an exhibition of electronic reading and mobility devices in the Blue Room of the McAlpin Hotel, 34th Street and Broadway, New York City, May 4-5, 1974, 10 a.m.-10 p.m. The exhibition, which is free and open to the general public, is intended to provide blind, deaf-blind, and visually handicapped persons with an opportunity to examine these aids and ask manufacturer's representatives about them.

A Cooperative Vocational Guidance Course for Visually Impaired Students-Clients

ABSTRACT: The vocational guidance course of a Florida school for the blind includes instructional and practicum units on grooming, hygiene, clothing, etiquette, eating skills, job applications, job interviews, and exploration of the literature on vocations. A wide variety of speakers are invited to appear and a number of vocationally-oriented field trips are taken. The Life Career Game is used to improve the decision-making skills of the students.

LILLIAN R. CARROLL
ALFRED H. LA BARRE

Ms. Carroll is guidance counselor, Blind Department, Florida School for the Deaf and the Blind, St. Augustine; Mr. La Barre is vocational rehabilitation counselor-evaluator, Florida State Bureau of Blind Services.

The vocational guidance course was created by the Blind Department, Florida School for the Deaf and the Blind, and the Florida State Bureau of Blind Services as part of their Cooperative School Program, because it was recognized that many of the visually impaired students-clients in the school needed more realistic vocational concepts, as well as the several specific skills necessary for job success: making suitable vocational choices, proper grooming and manners, eating skills, completing applications, writing cover letters and resumés, and learning more about vocational possibilities. Also, improved decision-making skills in the areas related to success in education, occupation, leisure activities, as well as marriage and family, were considered important.

Cooperative School Program

☐ The Cooperative School Program itself was begun in January 1968 when the Florida Council for the Blind (later to become the Bureau of Blind Services) opened an office on the campus of the school. Since then the relationship between the school and the agency has been truly cooperative, with program-matched teachers' salaries, matched funds for needed facilities and equipment, and joint planning and administration of the program by the respective staffs. An early activity of this program was the experimental use of the Life Career Game, a technique for simulating life experiences. And it was through this activity specifically that it was learned that all of the students' needs were not being met through the regular curriculum. As a result, it was suggested that a vocations course be added to the school program.

The vocational guidance course was begun in the 1969-1970 school year, and is a required credit course for all senior-year students. At present, the course is limited to seniors, with students below this grade level attending some of the presentations made by vocational speakers. An effort is being made, however, to increase the involvement of grades seven through 11.

Orientation

At the beginning of the course, the nature of and need for vocational thinking are explained in a series of orientation sessions and class discussions. Each student is given the opportunity to indicate vocational areas he would like to explore and vocational field trips he would like to take. The instructors thus become aware of the vocational thinking of the student early in the school year. Following the orientation sessions, various tests and inventories are administered to provide staff and the individual student with further insights regard-

ing interests, needs, and potentials; such information about their strengths and weaknesses is of great assistance to students in decision-making.

Tests and inventories

These tests and inventories are administered in a group setting, but the results are discussed in individual counseling sessions with each student. During the 1972-1973 school year, the Florida Twelfth-Grade Placement Test, Strong Vocational Interest Inventory, and Mary Bauman's Emotional Factors Inventory were used. In past years the Scholastic Aptitude Test, Minnesota Vocational Interest Inventory, and Kuder Preference Record have been used. During the 1973-1974 school year, the California Occupational Preference Survey was to be added. Since this interest inventory provides information regarding both professional and skilled occupations, it is anticipated that a more well-rounded and systematic picture of the students' interests will result. A number of the participants in the course have been sent to Florida State University for a comprehensive evaluation of their college potential. They were recommended for this evaluation by the administrative and instructional staff of the Blind Department and the Bureau of Blind Services counselors.

Units of instruction

The balance of this article is devoted to descriptions of the various units of instruction in the vocational guidance course. These units fall into three broad categories: good grooming and etiquette, the skills needed to actually get a job (interviews, resumés, etc.), and vocational exploration to aid in deciding on a particular vocation to pursue further.

Grooming and Manners

☐ The principles and practices of good grooming and good manners are vital not only in preparing for job interviews, but also in the overall vocational and social success of the individual. Our aim is to convey to each student the importance of good appearance in the sighted world and to help them recognize and utilize their best features and to look their best with a minimum of time and expense. It was decided that the subject of good grooming would be treated in a general way with the whole group, while the more personal aspects would be covered in separate groups for boys and girls. As in most of the units, class discussion and participation are encouraged.

Self-appraisal

First, the importance of proper diet for nourishment of the whole body is discussed and then a guided process of self-appraisal—including mental, physical, and personal elements—is begun. Such areas as the student's mental outlook regarding his disabilty, can he pass a physical examination if it is required, can he put in a full day's work, has he decided in his own mind that he can perform a job as well as any other worker, and in what areas does the individual need the most help in becoming well groomed are covered. Students are asked to bring to class a list of things for discussion that would be most helpful to them as individuals.

Personal Hygiene

☐ The boys and girls are placed in separate classrooms for instruction in personal hygiene. Due to the visual impairment of the students, more details need to be given to orient them to each subject and to teach them about the equipment and materials required, the appropriate techniques, and the desired results. The subjects covered in the personal hygiene unit are body care, oral hygiene, skin care (including the basic functions of the skin and the skin problems of adolescents), hand care with lotions or creams, nail care, care of the

hair, exercise to keep the body trim, to move gracefully, and tire less readily, and correct posture while walking and sitting. This last area is tremendously important at all times, but is especially so at an interview; it is covered in detail by the mobility department, so we just observe the students in class, in role-playing, and on field trips and make corrections, suggestions, or reminders as necessary.

Clothing

While the groups are still separated, the importance of clothing in good grooming is discussed thoroughly, including intelligent shopping (cost and quality, where and when to shop, fashion, color, fabric, and design), care and upkeep of natural and synthetic fibers, storage and mothproofing of clothing, seasonal requirements, arranging clothes in closet and in drawers, identification of clothing, containers for accessories, care and handling of jewelry, and basic outfits for women and men. A concise demonstration of packing a suitcase is also included.

Etiquette

Finally, the two groups are brought back together again and once more discuss the "do's" and "don't's" of good grooming in relation to preparation for a job interview. Knowing that these will again be reviewed during the role-playing portion of the unit on the interview, we therefore proceed very quickly to the second part of this unit, etiquette, covering manners (relations with other people), form (respect for social conventions), and usage (knowledge of how things are done today). It is impossible in the classtime available to cover a complete etiquette course, but we have tried to include such pertinent areas as women's and men's manners; school, telephone, business, and public manners; interrupting, answering, contradicting; manners to do with habits such as smoking, gum-chewing, etc.; introductions; and dating. Class participation is encouraged and expected and the students often reason out "best way" answers to their own questions. Table manners and special points about eating specific foods are covered separately in the unit on eating skills.

Eating Skills

☐ One area felt to be of great importance to the progress of the visually impaired student as a successful, well-rounded individual, both vocationally and socially, is the area of eating skills. Through classroom instruction and practicum, followed by evaluation in an actual restaurant setting, we expect the student to increase his knowledge and skill in eating properly, and to learn the correct techniques for ordering from the menu and paying the check and tip. This two-week unit has been carried out with the assistance of additional school and bureau staff in order to provide for individual instruction in these skills. Place settings and silverware are provided for each student. Instruction covers simple, day-to-day eating as well as more sophisticated and elaborate dining settings. Play-Doh, shaped into meat, potato, and vegetables, is utilized in teaching proper use of utensils for eating and cutting. Each student is instructed and evaluated individually in the classroom setting. The final evaluation of this unit involves a trip to a restaurant. Arrangements are made in advance with the proprietor of the restaurant and a menu is obtained so that large print and braille copies can be made for use in the classroom. The procedure for paying the check and figuring the proper tip are also covered in the classroom beforehand.

Job Applications

☐ Through contact with home counselors, we learned that graduates of the school were not well versed in the many steps involved in applying for a job. A special unit was therefore designed to eliminate this problem. Through appropriate classroom instruction, the student is taught the importance of a cover letter and of a well-written resumé, including the content and format for each. Applications are also thoroughly covered and discussed by using various examples of ones in current use. Finally, the student is expected to write a plausible cover letter and personal resumé and to complete an application.

Interviews

Preparations prior to the job-interview, situations that might be encountered, questions most frequently asked, negative factors that are evaluated, and the value of the interview as a hiring tool (from both the applicant's and the employer's point of view) are presented and thoroughly discussed. Finally role-playing of simulated interviews between the students and an experienced employment interviewer, with constructive evaluation by him, are conducted. There is then more role-playing between the students who take turns being employer and applicant. This again reinforces the earlier instruction and develops personal self-confidence in the participants. This unit has already brought about more sophisticated presentations by our students at real job interviews and has vastly improved the percentage of first-time job placements.

Vocational Exploration Papers

☐ To succeed vocationally, the student must be realistically aware of the world of work as it relates to his visual impairment. Therefore, a unit involving the completion by the student of four vocational exploration papers was developed. It is carried out through class instruction, the reading of well-written examples, the provision of a variety of published resources, and individual aid from the instructor as necessary in completing these papers. An outline for the papers is used for classroom instruction and as the format the student follows in completing the assignment. It includes the job title; job description or nature of work; employers and/or where employed; training, other qualifications, and advancement; employment outlook; earnings and working conditions; areas related specifically to visually impaired persons (required amount of vision, assistance, supervision, equipment, adaptations, or records, and travel); where to go for more information; and resources utilized.

Resources

A considerable amount of vocational material is available to the student through various sources. Over the last four years the instructors have accumulated vocational information on talking books and tapes, and in braille and large print. The Blind Department Library at the school has been responsible for procuring an added amount of specific vocational material. The instructors also have an ample supply of vocational resources in regular print in the form of textbooks, articles, catalogs, and pamphlets. The instructors are available to help the student complete the assigned papers by acting as a resource for locating additional information and helping him read the material. Additional volunteer readers have also sometimes been utilized. A partial listing of resources for job information is included at the end of this article.

Speakers

☐ The second semester of the course is highlighted by presentations to the students by speakers from a diversity of vocational areas. The areas are those listed by the students during the school year as of interest to them. The speakers allot

part of their time to respond specifically to the following suggested areas: How were you trained for your job? How did you get your job? What led to your interest in this kind of work? What are its satisfactions and its disadvantages? What, in general, is the advancement outlook in this type of work? What kind of person would you advise to try to do this kind of work? What are the physical, mental, and personality requirements for success? What other advice would you like to give to students considering this field? And, finally, if the speaker is visually handicapped, he is asked to include information on any changes or special gadgets that are needed for him to do the job.

Wide variety

Individuals, both sighted and visually handicapped (including graduates of the school), from the Bureau of Blind Services, colleges and vocational schools, Disney World, Florida State Employment Service, the food service industry, Gateway Hope Center, health career areas, hotel and motel industry, sales and repair service fields, and youth opportunity centers have spoken to the students. Also, civic and professional people, school staff, industrial representatives, and show business personalities have made presentations. Among the 16 speakers heard last year, for example, were Richard Boone, film and television personality; William C. Luther, BBS placement coordinator; Gregg Luther, director, Industrial Training Laboratory, Daytona Beach; James Welu, co-director, Pupils Services of St. Augustine; and Robin Leach, director of rehabilitation, Gateway Hope Center, Jacksonville.

Field Trips

☐ In another important part of the course, field trips, we try to arrange several places to visit related to the students' expressed areas of interest. A recent trip included St. Luke's Hospital, Jacksonville, for a tour of the X-ray department, where several of our graduates have received darkroom technician training and where one is employed, and the medical transcription department, which was of special interest to those seniors involved in our business education curriculum. On the same trip, stops were made at three vending stand operations run by totally blind graduates of the school (with lunch provided at one) and at Jacksonville's Jones College for a tour of its facilities, particularly its popular computer programming center and its radio and television technology program.

Rehabilitation center

On another field trip, the class visited the BBS Daytona Rehabilitation Facility, an evaluation center which is often a stepping stone for a number of our graduates who need more assistance in various areas before going into the world of work. Also during the outing, the practicum in eating skills was carried out at a restaurant. Finally, a stop at the Talking Book Library was made to orient students to its services and to ways in which they could improve their utilization of them in the future.

Workshop facility

One final example of a field trip is one which included the Gateway Hope Center, a training and workshop facility with many work opportunities and industrial jobs available to visually impaired clients and employees; Dobbs House Catering, Inc., to familiarize the students with the food service area, one in which some of our students could very well succeed if given the opportunity; and a conducted tour of an airport and a National Airlines 727 passenger aircraft, an exciting climax to the course for the year.

Life Career Game

☐ Since the inception of the vocational guidance course, the Life Career Game

has been one of its units. A technique for simulating various life-experiences, the game was adapted for use with visually impaired persons by the authors. The technique was originally developed by Sarane Boocock and James Coleman at Johns Hopkins University. Barbara Varenhorst, Ph.D., has used the game in educational and vocational guidance programs in the Palo Alto, California, schools. We observed and participated in the Varenhorst version of the game as it was being used with a number of St. Augustine high school students under the direction of the guidance staff. We then felt that this technique could be adapted and used to improve the decision-making skills of our students in the areas of education, occupation, leisure activities, marriage, and family. The adaptation involves the construction by the student of a hypothetical profile of an individual who has a visual impairment with the aim of making the decision-making process more related to the student himself and hence more realistic. The game also involves such adaptations as large print and braille copies of much of the material used in carrying out the activities.

It is our belief that, upon completion of the units of the course as described, the student will have gained a more realistic concept of the world of work in a sighted environment as it relates to him/her as an individual who is visually impaired or blind.

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Guide to NIH Contracts Program

A new brochure published by the National Institutes of Health (NIH), *A Guide to the NIH Research Contracting Process*, is designed to provide an over-all picture of the contracts program and to answer the most frequently asked questions concerning contracts. The brochure also lists the addresses for all contracting offices in the various NIH components. The brochure is available from the Director, Office of Contracts and Grants, National Institutes of Health, Bethesda, Maryland 20014.

Teaching the Continental Method of Eating to Blind Persons

ABSTRACT: Eighteen blind and visually handicapped persons participated in this study to determine how well they could learn the Continental method of eating, one thought to be more easily mastered and used than the American technique. After a two-week course, in which every detail of the technique was carefully described, demonstrated, and then practiced by the subjects, it was found that 13 of the 18 persons had mastered the method extremely well.

EDNA S. ROBERTS

Ms. Roberts is daily living skills counselor, New Jersey Commission for the Blind, Newark.

Many of us who daily teach blind and visually handicapped clients are acutely aware of the sensitivity of this group concerning their eating habits. This sensitivity manifests itself in many ways, from a strong reluctance, or even refusal, of some to dine in public eating places to others who, ignoring their inability to eat in an acceptable manner, simply convey the food from plate to mouth using any method they can manage.

The Problem

☐ Many visually handicapped persons have never learned basic eating techniques, merely because no one had specifically taught them. Many congenitally blind persons do not appreciate the importance of good table manners and have difficulty understanding why certain habits are irritating to sighted persons. Indeed, acceptable eating techniques are among the most neglected of the daily living skills.

Having taught for over ten years in the nonresident rehabilitation center of the New Jersey Commission for the Blind and Visually Impaired has given the author the opportunity of observing the eating habits of several hundred visually handicapped adults on a daily basis. Since this state-sponsored center serves visually handicapped clients from 16 years of age to those of advanced age, it can be presumed that a representative cross-section of this population was represented. Few of these individuals had good eating habits, regardless of their intelligence or family background. Those with good habits had much useable vision. From these observations, it was concluded that a method of teaching the use of knife and fork in a socially acceptable manner was long overdue; an empirical study to develop such a method was, therefore, initiated.

The literature

A search of the literature revealed that few studies had been made on methods of teaching eating skills to blind persons and none had been done on the Continental method. A mail survey of agencies in England, Canada, and the United States supported this finding. For this reason, the author decided to undertake a study to demonstrate that the Continental technique of eating (the fork is held in the left hand, the knife in the right at all times) can be taught to visually handicapped individuals, making the act of eating neater and simpler for them.

The Present Study

☐ Eighteen clients of the rehabilitation center program of the New Jersey Commission for the Blind volunteered to participate in this study. Nine were totally blind; the balance had some usable vision, but with a measured acuity

of 20/200 or less with best correction. The visual handicap of six of the persons was congenital.

Acceptability of the technique

As a prelude to teaching the Continental technique, it is most important to make the student, particularly teenagers, aware of its social acceptability in this country. Two American authorities on etiquette, Emily Post (1969, p.543) and Amy Vanderbilt (1963, p.230) prefer the Continental style, finding it simpler as well as more pleasing in appearance than the American "zig-zag" method. *Tiffany's Table Manners for Teen-Agers* (Hoving, 1968), a book specifically geared to do's and don't's, presents this European system pictorially.

Teaching eating skills

Since blindness precludes the gathering of knowledge through the observation of others, the skill of eating must be minutely described and precisely demonstrated. Every small detail must be presented to the blind person and repeated until the instructor is well satisfied that the entire procedure has been adequately learned. Individual, detailed assistance is essential. The basic techniques of Continental eating, taught in this study over a two-week period, are briefly summarized in the following paragraphs.

Orientation at the Table

☐ In the correct place-setting, the fork rests, tines up, to the left of the plate. The knife, with the sharp edge facing toward the dinner plate, lies to the right of the plate. The spoon rests to the right of the knife. However, since cutlery is not always placed properly in homes or in restaurants, the blind person must be taught how to locate the utensils in an inconspicuous manner. He must always have a point of reference. Since the dinner plate is not always at the place setting, the table edge should be used for this purpose. After being seated, the hands are placed at the table edge touching each other, thumbs down, fingers curled above the edge of the table but resting gently on the surface. Slipping the hands away from each other, the fingers, spreading carefully, can touch the ends of the silverware. Once located, the cutlery can be identified by slipping the fingers over the length of the items. Finally, with fingers curled downward and relaxed, the hands can locate and identify salad and butter plates to the left, and cup, saucer, and glassware to the right (Bindt, 1952, pp.87-91). This can be accomplished only when the person has acquired enough confidence to be relaxed at the table.

Because the shape of cutlery differs slightly depending on its design, it is essential for the blind person to be completely familiar with the utensils to be used. Therefore, the first step is to encourage the student to examine the knife, fork, and spoon and to become familiar with the details of each piece as well as its use.

Holding the utensils

The fork is held, tines down, with the forefinger of the left hand extended along the back. The thumb grips the edge nearer the person and the middle, ring, and small fingers are curled under the handle.

Knives can differ widely in style. The blade can be long or short. The cutting edge can be straight, curved, or serrated. However, there is usually a difference between the sharp and dull edges of the knife which is discernible by touch. Once the blind person is made aware of this difference, he can grasp the knife in his right hand, run the right forefinger over the edge and turn the knife inconspicuously so that the sharp edge is below. As with the fork, the thumb

rests on the side nearer to the person and the middle, ring, and little fingers loop under the knife handle. The forefinger rests on the top edge. To be of practical use to the visually handicapped person, knives must be very sharp.

Eating Continental Style

☐ In Continental eating, the fork and knife are used as a team, working together to gather knowledge about the food on the plate. When either strikes the bare plate, there are decided auditory and kinesthetic cues. Gently tapping with the knife and fork, the person can locate the food and identify its shape, size, and consistency. When bite-size pieces are found, the fork, with tines down, is used to pierce the food. It is raised about an inch from the plate at which point the knife is tapped upward against the points of the tines; it is then readily apparent if food is there. If so, the fork is raised to the mouth, tines still pointing down.

Mashed foods

Some mashed foods, such as potatoes, turnips, or parsnips, are pushed with the flat side of the knife on to the back side of the fork and carried to the mouth. Vegetables, such as peas and kernelled corn, can be included with the mashed food with relative ease.

Semi-solid foods are handled by modifying the Continental method. The fork, in the left hand, is turned over, tines up. With the fork held flat and horizontal on the plate, the knife pushes the food on to the fork, either from the front or from the back of the plate, whichever is the more natural to the individual. The hand and fork are raised on the same plane until the food is placed in the mouth. The elbow remains low.

Boneless meat

Boneless meat is not difficult to handle. When the meat has been found with the fork and knife, the plate is turned so that the meat is at the lower left of the plate. By tapping around the edge of the meat, its size and shape can be determined. The fork, tines down, pierces the meat approximately one inch from the corner closest to the eater. The knife moves smoothly down the back of the fork tines, until it touches the meat; it is then placed about one-half inch beyond the fork (otherwise the knife may cut into the holes made by the fork and the meat will slip off). The knife cuts with a sawing movement. The fork is then raised an inch or so. If the cut is incomplete, one feels the resistance of the still attached piece. The fork can then be lowered and the food recut. Again the fork is raised. The knife taps the ends of the fork tines and, if the meat is secure, the food is raised to the mouth.

Meat with a bone

Meat with a bone presents a much more difficult situation. First, the size and shape of the bone must be determined by tapping. Then, holding the meat with the fork, the knife cuts along the length of the bone. By raising the fork an inch from the plate, one can estimate where the meat is still attached. It is lowered and then re-cut. Finally, when the meat has been cut away, the piece is handled like boneless meat. It takes a great deal of practice to become skilled at cutting meat from the bone. However, it is not an impossible feat and can be learned through persistence and patience.

Results

☐ Since 13 of the 18 volunteers in this study learned the Continental method of eating with a grade of "Excellent" or "Well," it can be assumed that this technique can be mastered by blind persons. Six of the seven individuals who received the grade of "Excellent" were partially sighted; the other was totally

blind. However, five of the six who learned the method "Well" were totally blind. It is apparent, therefore, that any amount of vision, however small, helped to make this technique easier to learn and that the adventitiously blind client had the benefit of visual imagery not avaliable to the congenitally blind person. Further, emotional disturbance, brain damage, poor physical coordination, and limited I.Q. (below 85) presented more problems to the learning process. In each of these cases, individual instruction was necessary for a longer period of time. The greatest asset was the incentive to learn inspired by the desire to improve table technique. This in itself overcame many obstacles.

Conclusions

☐ In conclusion, the Continental method of eating gives the visually handicapped person a most important basic skill which permits him to locate, identify, and cut his food without using fingers or depending upon the aid of a sighted person. I cannot emphasize strongly enough that the two most important ingredients in learning this method are a genuine desire on the part of the visually handicapped individual to improve his eating skills and a teacher skilled in this technique who can instruct the student properly and, in the case of young people, to inspire the parents who have the crucial role of follow-up at home.

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Papers for IAT Congress Requested

The International Audio-Tutorial Congress has issued a call for papers to be presented at the sixth annual A-T Congress to be held in San Francisco, California, November 6, 7, and 8, 1974. Anyone wishing to submit a paper should send two typed copies of an abstract, in final form, to Dr. David D. Husband, Department of Biology, University of South Carolina, Columbia, South Carolina 29208. The abstract must be limited to one page and should give the title, the author(s), and address(es). Copies of all abstracts received by September 20 will be distributed to each participant at the conference. Those chosen to present their papers will be notified by October 1.

The Disability Seriousness Scale: Rating the Effects of Blindness

ABSTRACT: The test instrument developed for this study seeks to measure the extent to which the subject perceives his own or a named disability as debilitating in nine life areas or skills. It was administered to 46 visually handicapped persons and to 50 sighted college students. The results indicate that there is substantial agreement between the two groups regarding the seriousness of blindness in life activities. A number of correlations between the Scale items and demographic characteristics or life function tasks are presented; for example, the less others allow the blind person to perform his own tasks, the more serious is his problem with discouragement.

RICHARD T. WALLS, Ph.D.
A. P. MacDONALD, JR., Ph.D.
STEVEN P. GULKUS

Dr. Walls is associate professor and research associate, College of Human Resources and Education, West Virginia University, Morgantown; Dr. MacDonald is associate director, Frank Porter Graham Child Development Research Institute, University of North Carolina; Mr. Gulkus is a research assistant and doctoral student at West Virginia University.

It has been suggested that there are expectation discrepancies between sighted and blind persons, leading to inappropriate behaviors (Biddle & Thomas, 1967; Mayadas, 1972). The data base for such a hypothesis is, however, weak and examples of conflicting evidence may be noted (Bauman, 1961). Gowman (1957) reported that nondisabled persons, while rating blindness as the worst possible disability, believed blind individuals could function in a relatively normal way as productive members of the culture at large.

Although there has been some question concerning the accuracy of reported emotional and social difficulties among blind people (Klimasinski, 1972), the assessment of fundamental relationships related to living and adjustment skills remains a critical concern. The social and emotional rehabilitation of blind people depends upon the definition and validation of universal factors for constructs related to visual acuity. Once identified and understood, such factors may be instrumental in the development of more efficient intervention strategies. MacDonald (1970) found that sighted subjects have definite opinions about how debilitating blindness would be in various life activities and functions. The purpose of the present study was to determine if the ordering of these opinions corresponds with the reports of visually handicapped subjects, and further to explore selected variables as they might relate to visual acuity and the individual's perception of his disability.

The present study

☐ Forty-six legally blind clients of the West Virginia Division of Vocational Rehabilitation were scheduled and interviewed individually at home by trained interviewers. These 17 males and 29 females ranged in age from 17 to 77 years. Following the collection of demographic information, the subjects responded to a Disability Seriousness Scale. An additional sample of nondisabled undergraduate students (30 males and 20 females enrolled in the introductory psy-

Subjects and Procedures

This investigation was supported in part by the U.S. Social and Rehabilitation Service through the Regional Rehabilitation Research and Training Center, RT-15, West Virginia University, and West Virginia Division of Vocational Rehabilitation. The statistical analyses, upon which this article is based, are available from the senior author at West Virginia University, Morgantown, West Virginia 26506.

chology course at West Virginia University) rated items similar to the Disability Seriousness Scale. The scale is a nine-item test, constructed for the present study. It is designed to measure the extent to which the respondent perceives his own or a named disability as debilitating in each of the following nine life areas or tasks: a) general family relationships; b) relationships outside the family; c) getting a good job; d) family recreational activities; e) the discouragement felt; f) the dependency on others; g) the amount of special attention that needs to be given; h) getting around inside and outside the home; and i) getting along in personal relationships outside the household. The response format for these items was a five-point rating scale from "Very Serious" to "No Problem at All."

Disability Seriousness Scale

☐ The nondisabled college students rated blindness as "Least" to "Most Serious" respectively in the following areas: social, marital, familial, personal, and vocational. The ratings by the blind subjects were identical, except that the least serious, social and marital, were in reverse order. There was thus substantial agreement between disabled and nondisabled persons with regard to the seriousness of blindness in life activities. Further statistical analysis revealed that the lower the visual acuity of the individual, the more serious he perceives blindness as affecting his own life activities. The relationship lends a measure of validity to the seriousness perceptions of this sample of visually handicapped persons, as well as to the Disability Seriousness Scale itself.

Results

A number of interesting correlations between the Disability Seriousness Scale items and demographic characteristics or life function tasks were also obtained. 1) The less often the blind individual gets together socially with others from outside the family, the more serious are his problems with family relations, family recreation, dependency on others, and special help needed. 2) The less he prefers the company of other blind people, the more serious are his problems with discouragment, special help needed, and personal relationships. 3) The less he accepts his disability, the more serious are his problems with relationships outside the family, personal relationships, discouragement, and special help needed. 4) The less he agrees that blind persons can compete successfully in society, the more serious are his problems with family relations, relationships outside the family, dependency, and special help needed. 5) The more he worries about himself, the more serious are his problems with relationships outside the family and personal relationships. 6) The higher his medical expenses, the more serious are his problems with relationships outside the family, personal relationships, and special help needed. 7) The older the subject, the more serious are his problems with family relations, family recreation, and dependency. 8) The older he was at the onset of blindness, the greater is his dependency. 9) The more his close friends understand his disability, the less are his problems with dependency, and getting around inside and outside the home. 10) The less others allow the individual to perform his own tasks, the more serious is his problem with discouragement.

Additional correlations

Acceptance

Age

☐ It should be emphasized that such correlations express relationships between two variables and should not be considered in a cause-effect context. It is interesting, however, to note the above relationships with a view toward additional

Discussion

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validating research and pilot interventions. For example, how might a training program in which the client learned or was merely allowed to perform more of his own tasks affect his feeling of powerlessness or discouragement (MacDonald, 1972; Walls & Miller, 1970)?

Although mean differences were in some cases very small, there was statistical evidence that sighted subjects perceive the debilitating effects of blindness in various life areas much as blind persons do. The college sample utilized may, however, be more perceptive of the parameters governing the life aspects of blindness than is the nondisabled population at large. Rather than speculate further on the relationship between attitudes and behaviors, a more profitable approach would seem to be to investigate the discrepancies between perception and reality for various populations considering their functional outcomes in various settings.

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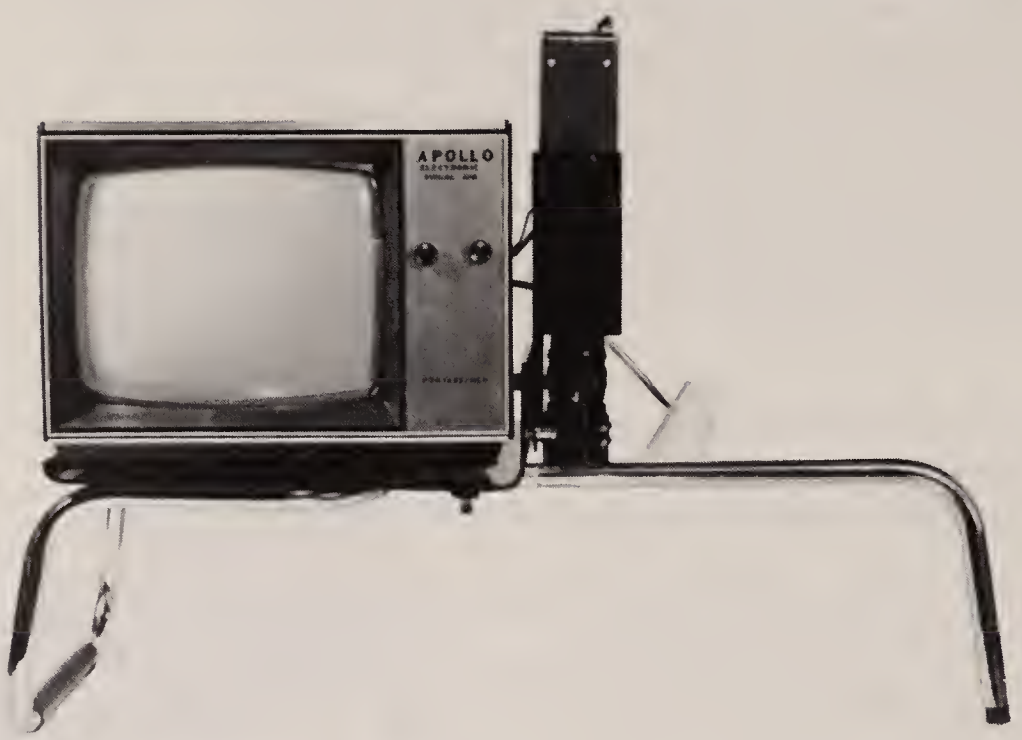
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Services for the Severely Handicapped

Interim regulations, issued by the U.S. Social and Rehabilitation Service and published January 3, 1974, in the *Federal Register*, require that state vocational rehabilitation agencies provide services to severely handicapped individuals before less seriously handicapped individuals are served. Other major new provisions include a requirement that states submit an annual plan for the provision of vocational rehabilitation services and the establishment of a new grant program for the innovation and expansion of vocational rehabilitation services.

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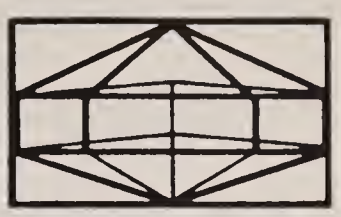
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Hindsight / M. Robert Barnett



Brazil, Anyone?

As the time for the general assembly of the World Council for the Welfare of the Blind draws near, I find I am beset with feelings of nostalgia about—or because of—memories of earlier assemblies. Paris, Rome, New York, New Delhi . . . the professional and personal involvement in a world-wide approach to the field of services for the blind can be a highly stimulating experience. From all the signs, Sao Paulo will be no exception.

For the record, the assembly in Sao Paulo begins Monday, August 5, and ends Friday, August 16. There are some advance committee meetings of concern to those who are involved. In addition to the business and professional sessions, there will be a flock of social events. In past assemblies, these alone have been well worth the trip. Knowing the Brazilians, this year again promises to be no exception.

World Council meetings are characteristically a combination of friendly rivalry and even more friendly conviviality. Chauvinistic devotion to national or regional interests do come close on occasion to disrupting the otherwise harmonious approach to world brotherhood on behalf of all blind people, but never to the point of bloodshed. Agreement among us in one language about philosophy or policy is difficult enough. Just imagine what happens when a group is faced with the problem of meaning, and shades of meaning, in a dozen different languages. I can tell you that it can get a bit tedious and even downright tiring to the seat of the pants and to weary ears. It would be so much more comfortable if everybody spoke American.

This year there will be, predictably, some rather tense issues about the constitutional base and principles of representation. The WCWB, like all such organizations, whether national or international, has problems of finance; and this has led, understandably, to the need for review of its rather expensive executive committee structure. Since that committee must also satisfy national and regional ego needs, this one will not be a simple matter to resolve.

Elections of a new president and other officers also are on the agenda. As of this writing, many weeks before this magazine will appear in print, there seems to be no clear cut and generally recognized heir (ess?) to the throne. This little matter can get sticky, but I predict it really will be a lot of fun and will be resolved in general high spirits and a universal expression of condolence to the successful campaigners—for the headaches to come.

To my mind, one of the high points of a World Council assembly is the singing. Yes, of course, the speakers are excellent and the debators are great, but the songsters are even better. There comes a time at every assembly when the songfest breaks out, and everybody drops his national political mantle but dons his national cultural dress. Everyone does his level best to sing everyone else's songs, and does a fair job of it. There are, inevitably, three inescapable and essential songs that must be done. The first is "Waltzing Matilda," the second is "O Sole Mio," and the third is "Show Me the Way to go Home." Of course, if this singsong occurs towards the end of the sessions, it has to be topped with "Auld Lang Syne," and if that goes on too long somebody really does have to show you the way to go home. See you in Sao Paulo.

Ugly is Beautiful

Most of us have heard it said from time to time that a blind person is fortunate in that he need not be plagued by seeing all the ugliness in this world. I wonder about that. On the other hand, we also have heard the fundraising pitches of prevention of blindness organizations about how beautiful is the world when sight is restored.

Well, quite apart from all that, I would like to tell you about a blind musician I heard interviewed on the Mike Douglas show a few weeks back. He is a rather well known and popular singer, but his name need not be brought into this discussion. He lost his sight when he was six years old; and, like so many other blind persons, expressed readily and happily his lack of bitterness and freedom from frustration—all of which duly impressed the sighted audience and the sighted Mike Douglas.

It was his answer to the question as to whether he would give anything to have his sight restored that really bugged me. He said no.

He went on to explain that he had his own picture of the world around him and is content with it. He has his own image of his wife and children and is content with that as well. He has his own awareness of his audiences, friends, and associates, and he is, again, content with that.

The implication here is that he might find reality through visual inspection somewhat unpleasant if not traumatic. Again, I wonder. For me, and after many hours on a symbolic psychiatrist's couch, I think I would be quite willing to take the chance. After all, *my* friends can't be all that ugly.

Cars, Heights, Hats and Nightmares

If Dr. Freud were still around, what follows probably would have been discussed privately with him. Unfortunately, he is not, and his modern descendants are too darned expensive. I, therefore, will discuss it with you.

I am referring to my dreams. In case you do not know my life's history, I could see until the age of sixteen. I have what is called a vivid visual memory. But in understanding my dreams, this is not a factor. In my dreams—sometimes nightmares—I actually see people and things, and what is more, people and things I had not seen before I lost my sight.

For example, the other night ! dreamt

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that I was seated at the dinner table and being served by a female person. I ask you —how did I know she was a female person? Further, she was not clearly any woman I know, but rather a conglomerate of all I have known—meaning sisters, wife, daughter, a long line of secretaries, girl friends, and just plain friends.

She put in front of me, ostensibly to be eaten, my ten-year-old green velour Swiss hat, complete with its little feather in the band. Irritated, I tossed it on the floor and searched my plate—visually, that is—for something more appetizing. In its place, she deposited a straw cowboy sun hat, the kind I wore as a kid on a Georgia farm while rounding up the milk cows on the back of my favorite horse.

A few nights later, in my dream I entered a men's haberdashery store, looking for shirts. Instead, I found myself gazing—gazing, mind you—at hundreds of hats on shelves and counters. I protested to the male clerk—and how did I know he was male?—that I desired no new hat, only shirts. Incidentally, the hats were of all colors and shapes.

Heights seem to be another recurring theme in my night-time fantasies. Somehow—impelled by a profound and mysterious challenge—I must make it over a maze of exposed girders, wire meshes, a series of crosswalks, ladders, inclines, and descending ramps . . . all several thousand feet in the air and with ominous unseen dangers far below. I either always make it, or I wake up before I know whether I did.

I have heard from dream analysts that if you dream about automobiles it has something to do with your need to drive or your willingness to be driven.

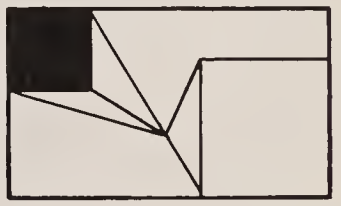
Well, this one I really find disturbing. I frequently dream that I am in a car, and sometimes even an airplane. The odd thing is that I am doing the driving. In my sleep, I tell myself that I should not be doing this because I am blind. Notwithstanding, I joyously and precariously forge ahead. None of my passengers seems to be at all dismayed.

If any psychologist who reads this journal cares to analyze and comment upon all this, I would like to hear from him or her. Privately, of course—and without charge. Meanwhile, I will have to go along with whatever makes any of us dream, hoping that I will not fall off that great height, wreck the car, or eat my hat.

No Reprint

Unlike some recent Hindsight columns, this definitely is not a reprint from an earlier year. On the other hand, if anyone would like reprints of this brand new essay, I will be happy to send you several hundred.

Letter to the Editor



To the Editors:

I have read Mrs. O'Brien's review of my book, *The Visually Handicapped Child in School* (*New Outlook,* November 1973) and find it gratifyingly affirmative. As to the suggestions she has about the missing textbook characteristics, like summaries and means of effective study and utilization, I thought that a textbook must leave something for the instructor to do rather than anticipate all questions and study procedures that the instructor should work out individually with the students. I know that many American textbooks do include such materials, but I am too much of a teacher myself to want to have this constructive and creative task relinquished to the presentation of a textbook which must be patterned and cannot individualize so far as the students and the instructors are concerned. I agree with Mrs. O'Brien that "The integration of theory and practice is essential . . ." but I believe this to be the task of the instructor. The book was not designed to replace an instructor who must be well-versed in all aspects of the education of visually handicapped children. In any case, Mrs. O'Brien's review is a thoughtful one and very much appreciated by me, and, I am sure, also by the contributors to the book.

Berthold Lowenfeld, Ph.D.
Berkeley, California

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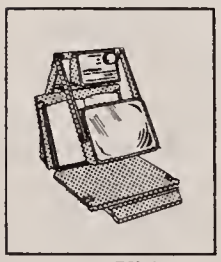
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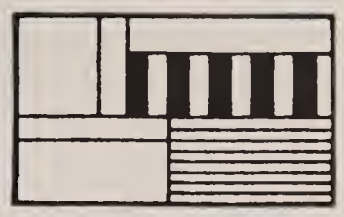
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Review



The Island, by Robert Russell, New York: The Vanguard Press, 1973. 274 p. $6.95

Reviewed by Carlton Smith

The St. Lawrence is a big river where it leaves Lake Ontario and heads for the ocean. There is a sense of the vastness of an inland sea. For the most part it goes about its business peaceably, though in rough weather it can be a 13-mile wide tempest of thrashing water and jagged rocks that will sink a boat or drown a man as handily as any stretch of water north of Cape Horn.

Robert Russell has, for some 20 years, conducted an extraordinarily satisfying love affair with this river, and with the island that gives its title to an extraordinarily satisfying, and delightful, book.

Russell is clearly not an ordinary person. Blinded at the age of five, in what he calls a "freak back-yard accident," he made his way in rapid succession through a school for the blind in New York, a B.A. and M.A. at Yale, and the British equivalent of a Ph.D. at Oxford. He is currently chairman of the English Department at a college in Pennsylvania. He has renovated two houses on the island. If you need to know how a do-it-yourselfer can jack up a two-storey boathouse and put a new foundation under it, with the aid of a couple of friends and a few cases of beer, Russell is your man. If you have the problem of driving 10-inch spikes into heavy timbers under eight feet of water, Russell can tell you how it's done.

He has experienced the vexations of restoring, repairing or replacing old plumbing, leaky roofs, chimneys that won't draw, pumps that don't pump. He has snarled at his wife and children, been informed by other residents of the island that he is dangerously insane, and at times suspected they were right. He has loved every minute of it. Well, almost every minute.

If it all sounds reminiscent of *Mr. Blandings Builds His Dream House,* that's as it should be. Russell's story is told with the same kind of rueful humor, as the family copes with these and other tribulations. It reflects their affection for each other, for their island, and for the home they have made there. It is warm, loving and wise. It has the stuff of which best-sellers are made.

But *The Island* is more than a highly readable entertainment. Russell has an artist's compulsion (or a poet's) to—for want of a better phrase—get in touch with life. He wants, with a rare intensity, to feel it, taste it, experience it, know it. Blindness imposes some unusual conditions on such a person, as Russell is the first to admit.

For example, he remembers his first experience of the St. Lawrence, at the age of 13. He could sense the vastness, but when he tried, through the eyes of a teen-age friend, to get a concept of dimensions, he couldn't. "The size of the world through which we move, our sense of space," Russell is forced to admit, "is determined by the limits of our perception. The eye grasps far more than the ear . . ."

So Russell does not deny his blindness. Neither does he allow it to cripple him, for he succeeds to a rare degree in achieving the sensual contact with life that is so necessary to him. On this occasion, he could draw his sense of the river from its rocks—big and coarse, their "edges sharp, angular, definite, strong . . ." Until then he had known only the tame little streams of fields and meadows, where the rocks were "smoothed, rounded, softened, dulled and domesticated . . . The St. Lawrence was raw, strong, butting its shoulders up from the very foundation of things."

What Russell tries most of all to get in touch with is the elemental—that which is intense, alive and in some fashion related to the very foundation of things. The raccoon, for example:

It is many years later. Russell is now a professor, a father, a man of property. One day, while he is sitting in a bar with a friend, the bartender offers to give him a raccoon. Now, most people would not want a raccoon in the first place. Not only did Russell want one, he wanted it in the worst way—or should one say the best way?

"As if stunned, I sat trying to absorb the idea that soon I would be holding a live raccoon—not just listening to a description of one from a sighted friend, not running my fingers over a rigid, immobile statue of one covered with plush. Soon I would be in touch with the living face . . . the touch of a raccoon's paw, the sense of those instant, razor claws . . . To sense the life animating that superbly competent flesh . . . drifting with air-borne stealth through the tall grass along the river in the late evening, sniffing, listening, looking, waiting, watching . . . alert, tense, alive. The touch, the sound, the smell of that animal would be my instant pathway back to my feral origins where the pulses still throbbed in the dark and whispering branches."

Forever striving to get in touch. There is the fishing, for example. With the help of a physicist friend, Russell rigged up a bell on shore that dinged at intervals—a lifeline, a homing device that allowed him to row himself out to his favorite fishing grounds. There was one noteworthy contest, at the end of which he had boated a huge pike nearly a yard long. Rowing back, then, "along that thin, clear thread of sound, I had the wetness of the great St. Lawrence on my palms, its sounds in my ears, its smells in my nostrils, its joys on my tongue, and, at my feet, an ingot from its dark and inexhaustible treasure house." The pike, too—the "green-and-white-bellied fish with the long savage jaw"—had something to do with the very foundation of things.

Life in the city, and on campus, is an endless round of "permanent, but empty abstractions." It is only on the island that "life, or maybe the contest, seems real, the forces clear." The contest sometimes means danger. "Wind and water do not lie. Danger is real, as real as the sweetness of summerings. It is this truth that the wind speaks, that the waves thunder, that the rocks stubbornly affirm . . ."

Russell has never shied from danger,

whether it took the form of going insanely into debt to buy a piece of the island, or going to the rescue of a boat during a howling storm. Danger sharpens the senses, heightens the perceptions, and perhaps gets one closer to some of the meanings. The river—certainly close to the very foundation of things—is, Russell writes, "the path along which I thread my years and where, by the rocks and waves and wind, I search for my meanings."

One phrase he uses tells a great deal. He can recall, from childhood, a sensual experience that was then fresh and "keen, not yet blunted by the plastic coating of familiarity." Certainly only a few individuals can have succeeded as well as Russell in avoiding the plastic coating that time and familiarity lay upon our senses. Has that been, in part, because of his blindness? Does the difficulty of sensing life as easily as the sighted explain, in part, the intensity with which he has reached out, found, felt and sensed?

If Russell himself knows, he does not say. In any event, *The Island* is a book that should change attitudes toward the world of the blind. No one, having read it, can ever again believe that blindness sets one apart as a person handicapped in his ability to comprehend the world. Robert Russell sees things better than almost anyone you know. It is the people with plastic-coated senses who are visually handicapped—and of course they include both the blind and the sighted.

Carlton Smith is a freelance writer who renovates houses, admires raccoons, and feels that getting caught in a heavy blow at the tiller of a sailboat is a religious experience, close to the very foundation of things.

See It My Way, by Marilyn Swieringa, Illustrated by Robin A. Jensen. The Institute For The Development of Creative Child Care (927 Bemis S.E. Grand Rapids, Michigan, 49507), 1972. 48 p. $1.50 plus $0.25 postage and handling.

Reviewed by Jessamine Cobb

This booklet is dedicated by the author to friends "who laughed and cried with me as they tried so sincerely, but feebly, and sometimes dangerously to assist me in my first years of sightlessness."

Mrs. Swieringa gradually lost her sight from diabetes, and at the age of 38 when she was diagnosed totally blind, she found her world radically changed and her role as wife and mother considerably more complicated.

The content of *See It My Way* is based on the author's experiences as a newly blinded person. As she groped to adjust to



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a world she could not see, there were bumps and bruises and feelings to cope with as other people pitied, without understanding and tolerated, without accepting. Gradually she became isolated instead of being involved and at ease in her social relationships. Because Mrs. Swieringa wanted friends to adjust to the "new Marilyn," she wrote this booklet.

The author points out that our lives today are so programmed to a hectic pace that we often do not take time to think about the other person's reaction to our behavior. She describes the types of people who both helped and hindered her in adjusting to new circumstances, new roles and new demands on her performance as wife, mother, and active civic leader. The reader is introduced to "the pushers, the pullers, the pathfinders, the pace-setters, the protectors, and the pleasant, polite and praiseworthy people".

The stick figure illustrations by Robin Jensen portray the ups and downs with humor and the text written by Mrs. Swieringa presents a series of vignettes with a moral. "Please See It My Way," pleads the author, "Help me to socialize. Don't let me stand alone. Think how silly I would look if I got turned around at a wedding and stood facing into a corner like a child being punished." And still another example illustrates the practical way the author points out the do's and don'ts that make the association between blind and sighted persons more comfortable. "Let me see things with you. Describe the gifts as they are opened. Pass them to me so I can feel. Help me to know that I have a place and identity in your world."

The reader responds to the warmth and humor of these episodes because he sees himself in these situations and can laugh at his own mistakes. The booklet is a down-to-earth guide and will benefit all those who associate with blind persons as well as helping blind persons to learn how to ask for help and dispense with it if it is not needed.

Miss Cobb is the midwest regional consultant for the American Foundation for the Blind.

Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1000 words in length.*

Itinerant Teaching Using Mobile Classrooms

Jules Coté

Fully-equipped, mobile classrooms have been used to deliver services to a small visually handicapped population in widely scattered public, private, and parochial schools throughout New Hampshire since September 1971. Over the past two years, this approach has not only been effective, but economical in light of alternative residential programs. Eighty-two children in 13 regional school districts are served on a regular basis via these units by a staff of certified teachers of the visually handicapped.

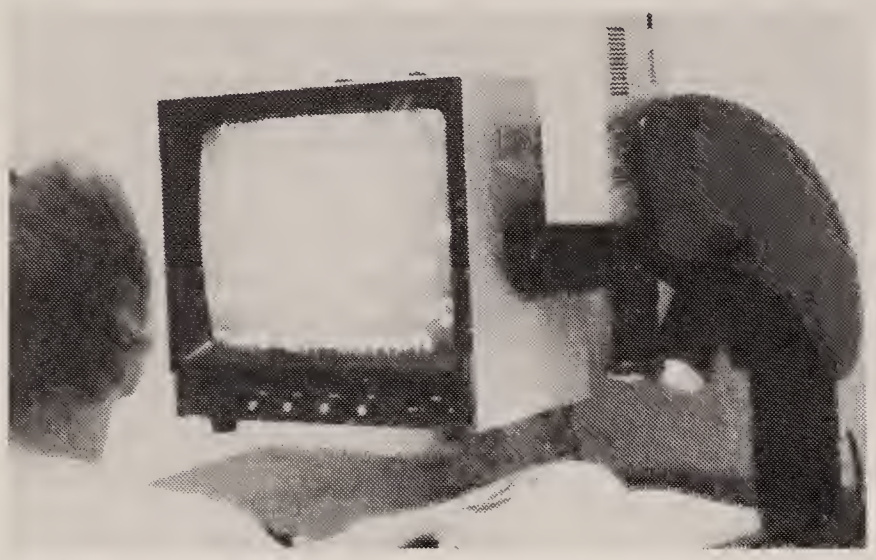
The Special Education Section, Division of Vocational Rehabilitation, New Hampshire Department of Education, is responsible for the education of visually impaired children whose corrected visual acuity in the best eye is less than 20/60 or whose field of vision is limited to no more than 20 degrees. The Special Education Section contracts with local schools—public, private, and parochial—to provide services to these children on a regional basis. The responsibility for the education of children in New Hampshire rests with the local school district. The special services, therefore, are to supplement and not supplant the academic or vocational offerings of these schools; they are limited to the areas affected by the child's handicap and to the skills and materials required by the child for him to function within the local school setting.

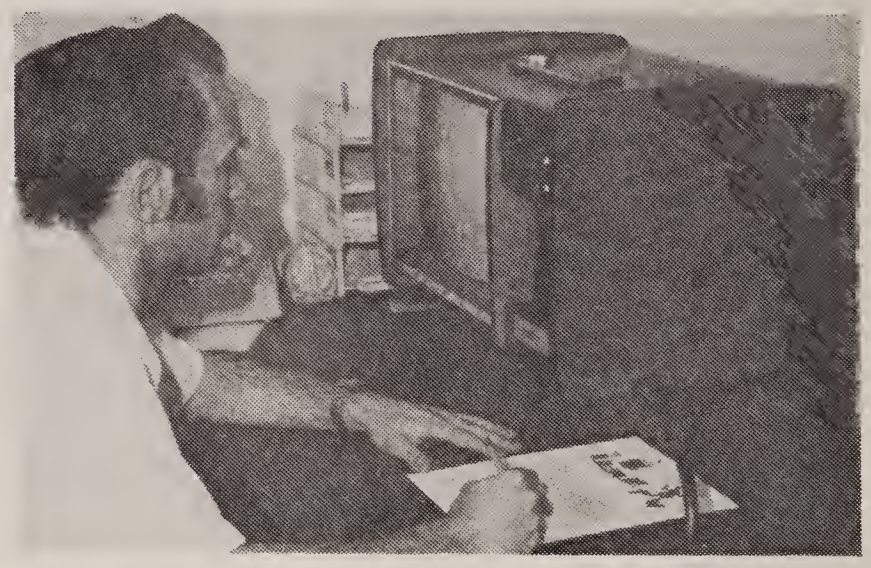
Because of the state's unprecedented growth of population, especially in the southern part, many of the schools are overcrowded and/or on double sessions; therefore, no suitable space for itinerant programs is available in the schools. A commercially-available, motorized home seemed to be the most economical and desirable way of solving this problem. In addition, the itinerant teacher for visually handicapped children must carry many kinds of materials and equipment: braille and large print books, tape recorders, typewriters, talking book machines, and a vast amount of realia for the development of visual and auditory perception. The mobile unit has ample storage space for such materials, as well as a large table accommodating four to eight persons and, in some cases, extra desk space. The mobile classroom is, therefore, used not only for teaching purposes, but it also provides office space in which the itinerant teacher can prepare materials needed by the students.

The particular unit that has proven most satisfactory to date is a 20-foot-long motorized home. The lighting in all the units has been supplemented by banks of fluorescent lights. With an all-electric motorized home, heat, light, air conditioning, and outlets are powered via a 25-foot electric cord plugged into an outlet outside of

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each school. Our most expensive unit has its own generator and is, therefore, completely self-contained.

The itinerant teacher in New Hampshire is not only concerned with the educational needs of visually handicapped children, but also with guaranteeing that the rights of each handicapped child are protected and that he receives the services to which he is entitled. Work with these children begins at the cradle; the itinerant teacher meets with the parents of the infant and advises them of the services available to them and to the child. She or he works with the parents and the child on developmental skills and informs the parents of the developmental stages through which the child will pass. Materials are made available to the parents directly and through the State Library for the Handicapped. The itinerant teacher works with the parents in obtaining whatever welfare, health, educational, and psychological services the child may need. Educational placement in nursery school and kindergarten is explored and evaluated.

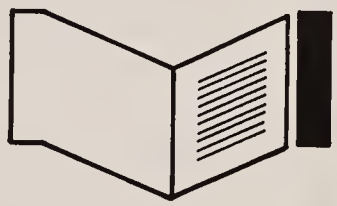
The special skills taught to the visually handicapped child include braille, computation on the abacus, typing, visual and auditory perception, rudimentary orientation, and, for young children, developmental skills. In addition, the teacher produces classroom materials in braille and large type and on tape; usually these are teacher-made tests, pamphlets, and other materials not available from the New Hampshire Materials Center for the Visually Handicapped. Textbooks, supplementary materials, and equipment are ordered and made available. The teacher is expected to be a consultant to and a liaison between parents, teachers, and agencies. The teacher, in consultation with the consultant from the Special Education Section, determines the needs of each child and apportions the available time and resources among the local educational agencies.

To insure high-quality performance and a good working relationship between the Supervisory Union and the staff of the Special Education Section, the teachers meet one day each month in Concord for the exploration of common problems and in-service training led by the state consultant and the psychologist for the visually handicapped. Guest speakers from the medical profession and other state agencies, such as welfare, vocational education, and vocational rehabilitation, are frequently invited so that the professional skills and knowledge of the itinerant teachers will be broadened and kept current.

In August 1972, New Hampshire obtained the services of a psychologist with ten years experience in a residential school for the blind, to work four days a week in order to better meet the psychological needs of the children and to consult with their parents. In addition to psychological evaluation and therapy for the children, he works with the parents, consults with public school teachers and administration, and participates in the planning and presentation of the in-service program for itinerant teachers. Until September 1973, the psychologist was sharing a mobile unit with one of the itinerant teachers; he now has his own mobile unit to enhance the delivery of these services on a state-wide basis.

Mr. Coté is the Special Education Section consultant, Vocational Rehabilitation Division, New Hampshire Department of Education, Concord.

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

The Astoria Park Program of Industrial Arts for Visually Handicapped Children, by William D. Wargo. *Man/Society/Technology* (American Industrial Arts Association, Inc., 1201 16th Street, N. W., Washington, D.C. 20036), Vol. 32, No. 8, May/June 1973, pp. 311-314. The author is an associate professor of industrial arts at Florida State University in Tallahassee, Florida. He describes a public elementary school program established as a follow-up to a demonstration pilot program concerned with concepts and technology for teachers of the visually handicapped. He lists some of the individual and group projects and emphasizes the contributions industrial arts training makes to the development of visually handicapped childrens' feelings and personality.

Survey of 200 Blind Veterans as to Age, Visual Acuity and Etiology, by Franklyn J. Pollock. *Eye, Ear, Nose and Throat Monthly* (Professional Press, Inc., 5 North Wabash Avenue, Chicago, Illinois 60602), Vol. 51, No. 2, February 1972, pp. 58-60. Survey based on statistics compiled at the Veterans Administration Outpatient Clinic in Los Angeles. The men were examined prior to rehabilitation at the West Coast Rehabilitation Center in Palo Alto, California. Reprint requests should be addressed to Franklyn J. Pollock, M.D., 3380 Manning Center, Los Angeles, California 90064.

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Health Is Where You Find It, by Guy Lawrence. *St. Dunstan's Review* (191 Old Marylebone Road, London NW1 5QN, England), No. 647, December 1973, pp. 4-7. The author, a blinded veteran of the South African Air Force, goes into some detail concerning his experience with and his firm belief in the value of Yoga exercises as a physical training system for blind persons.

The Language of Vision, by Colin Blakemore. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA, England), Vol. 57, No. 679, November 1973, pp. 282-286. Reprinted article from the June 14, 1973 issue of the *New Scientist* (a British weekly review of science and technology) describing past and present research in visual physiology. Studies of both man and animals are included as to theories concerning how the brain processes visual information.

Jessie Hickford, by Geoffrey Smith. *The New Beacon* (see address above), Vol. 57, No. 679, November 1973, pp. 287-290. Jessie Hickford, a school teacher who became blind at age 52, is the author of a recently published book *Eyes at My Feet.* It is about her guide dog and is the first such work to be written by a British guide dog owner.

On the Echolalia of the Blind and of the Autistic Child, by Warren H. Fay. *Journal of Speech and Hearing Disorders* (American Speech and Hearing Association, 9030 Old Georgetown Road, Washington, D.C. 20014), Vol. 38, No. 4, November 1973, pp. 478-489. The author theorizes that the similarities in echolalic blind and echolalic

autistic children stem from sensory deprivation in the one and perceptual restriction in the other acting in a like manner to delay or preclude language acquisition. Reprint requests should be addressed to the author in care of the University of Oregon Medical School, 3181 S. W. Sam Jackson Park Road, Portland, Oregon 97201.

Mental Retardation and Neurologic Involvement in Patients with Congenital Retinal Blindness, by Anatole S. Dekaban. *Developmental Medicine and Child Neurology* (American Academy of Cerebral Palsy, University Hospital School, Room 43, Iowa City, Iowa 52240), Vol. 14, No. 4, August 1972, pp. 436-444. Report on studies of 61 cases of congenital retinal blindness, a recessively inherited disorder occurring in about ten percent of blind children. Reprint requests should be sent to the author in care of the National Institutes of Health, Section of Child Neurology, 9000 Rockville Pike, Bethesda, Maryland 20010.

Report on a Demonstration of the Optacon, by Michael Hingson. *The Blind Californian* (The National Federation of the Blind of California, 3315 Cabrillo Street, San Francisco, California 94121), Vol. 14, No. 3, May-June-July-August 1973, pp. 17-21. A report on the training program in the use of the Optacon undertaken in the San Diego Unified School District. Five students have participated in the program which was started two years ago.

The Development and Application of Intelligence Tests for the Blind: A Research Utilization Conference, by W. Scott Curtis. Final Report. Social and Rehabilitation Service Research Grant 22-P-55152/4-01. U.S. Department of Health, Education and Welfare, Washington, D.C., August 1972, iv + 49p. The purpose of the project was "to inquire into the current status of development, past use, availability, and future planning for these tests in relation to the fields of psychology, educational and vocational counseling." A limited number of copies of this final report are available, requests should be addressed to: W. Scott Curtis, Chairman, Speech Pathology/Audiology, University of Georgia, Athens, Georgia 30601.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Education

Impressions of Special Education Soviet Style, by Jean Nazzaro. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Hwy, Arlington, Va. 22202), Vol. 40, No. 2, October 1973, pp. 111-117. Highlights the impressions of American educators who observed Soviet special education programs.

Genetics

Unlocking the Mysteries of Inheritance, by Grace Wohlner. *Parents' Magazine & Better Family Living* (Parents Institute, Parents Magazine Enterprises, Inc., Bergenfield, New Jersey 17621), Vol. 48, No. 11, November 1973, pp. 43, 45, 116, 118-119. Genetic counseling increasingly enables couples to predict, and in many cases, to improve their chances of bearing genetically sound children.

Pamphlets

Early Disease Detection—a New Way To Health, by Edward Edelson. The Public Affairs Committee Pamphlets (381 Park Avenue South, New York, New York 10016), 1973. 20 p. $0.25. The success of American medicine in finding cures in the past led to overlooking the more desirable method of dealing with disease—prevention. The case for an emphasis on prevention is presented, citing figures, both health and money, why prevention pays.

Hiring the Handicapped in Recreation. A brochure which discusses the problems normally associated with hiring the handicapped in recreation, parks, leisure or cultural services. Includes outlines of several successful placements. Copies can be obtained by writing to the Committee on Recreation and Leisure, President's Committee on Employment of the Handicapped, Washington, D.C. 20210.

Medical Sciences

Treatment of Acute Proliferative Retrolental Fiborplasia by John W. Payne, M.D. and Arnall Patz, M.D. *Transactions of the American Academy of Ophthalmology and Otolaryngology* (American Academy of Ophthalmology and Otolaryngology, 15 Second Street S.W., Rochester, Minnesota 55901), Vol. 76. September-October 1972, pp. 1234-1246. Reprints of this report can be obtained from John W. Payne, M.D., Johns Hopkins Hospital, 601 North Broadway, Baltimore, Maryland 21205.



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Preschool Children

Physical and Occupational Therapy for the Handicapped Child, by P. Potter and S. Harryman. *Pediatrics Clinics of North America* (W.B. Saunders Co., W. Washington Sq., Philadelphia, Pa. 19105)—Vol. 20, 1973, pp. 159-176. Advocates earlier physical therapy treatments, beginning with birth, to prevent unnecessary complications which sometimes occur when treatment is delayed until children are three or four years of age. Therapy proposals and treatment approaches emphasize providing the environment for perceptual and cognitive, as well as physical development.

Sex Education

Sex Education for the Exceptional Person; a Rationale, by James Maddock. *Exceptional Children* (Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 40, No. 4, January 1974, pp. 273-278. The prevailing attitudes toward the expression of sexuality by exceptional children reflect an older, repressive tradition, rather than the dynamic presently experienced in the non-handicapped population. Some of the reasons for this repression are examined in an attempt to free the exceptional child from the further handicap imposed by the denial of necessary and desirable sexual expression.

Statistical Surveys

Vision Test Validation Study for the Health Examination Survey Among Youths 12-17 Years. National Center for Health Statistics, Health Services and Mental Health Administration, U.S. Public Health Service. *Vital and Health Statistics* (available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Series 2, No. 59, DHEW Publication No. (HRA) 74-1333, December 1973, iv + 36p. $0.65. "Validation of selected parts of the vision test battery used in the Health Examination Survey of 1966-70 among youths 12-17 years of age against a standard clinical ophthalmological examination for distance visual acuity and eye muscle imbalance."

Vocational Rehabilitation

Rehabilitation Information; a Bibliography, by Ruth A. Velleman. *Library Journal,* (R.R. Bowker Co., 1180 Avenue of the Americas, New York, New York 10036), Vol. 98, No. 18, October 15, 1973, pp. 2971-2976.

Rehabilitation Services; Public vs. the Private Sector, by Jerome R. Lorenz. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 W. Ogden Avenue, Chicago, Illinois 60612), Vol. 34, No. 9, September 1973, pp. 258-266, 274. Reviews the current literature concerning the relationship between the public and the private sectors in rehabilitation, in both Europe and the United States. Analyzes the relationship, with particular emphasis on the problems that have been and are apparent. Several proposals for solving these problems are viewed from both the public and private sector perspective.

In Brief



■ A program for monitoring birth defects has been established under the auspices of the World Health Organization. To date six countries—Canada, England, Wales, Hungary, Israel, and the United States—are participating, with other nations expected to begin taking part in the near future. The program is designed to obtain early information on changes in the worldwide frequency of all biochemical, structural, and functional disorders present at birth. The program will have a dual focus, comparing the observed number of malformations with the number expected, and comparing the incidence observed during one quarter of the year with the same period of the preceding year in the same area.

■ A new booklet, *Consumer Advice for the Handicapped,* gives information about special services, traveling and education for the handicapped person, buying equipment and medication, the rights of the handicapped, and other subjects of interest to handicapped persons living in the New York City area. Copies of the booklet may be obtained by writing Consumer Education, Department of Consumer Education, Department of Consumer Affairs, 80 Lafayette Street, New York, New York 10013.

■ Four agencies for the blind have recently been accredited by the National Accreditation Council for Agencies Serving the Blind and Visually Handicapped. (NAC). The newly accredited agencies are: the Sacramento Society for the Blind, Sacramento; the New Hampshire Association for the Blind, Concord; the Blind Association of Western New York, Buffalo; and the Lancaster County Branch of the Pennsylvania Associations for the Blind, Lancaster. Fifty-three agencies and schools in 32 states and the District of Columbia have received accreditation since NAC's inception in 1967.

■ A new cassette series, *The Sounds of Black Heritage,* published bi-monthly, is a "magazine" of historical sketches arranged into chronological sections, with provocative questions raised at the end of each section. The series divisions are: "Beginnings;" "Slavery;" "Civil War;" "Early Contributions;" "Reconstruction and After;" and the "20th Century." The 30-minute cassettes, which fit all brand of players, are $7 each, and a year's subscription to the series is $35. For further information write Sylvestre C. Watkins Co., 11372 Links Drive, Reston, Virginia 22090.

■ *Horticulture* as a *Therapeutic Aid* is the title of a new monograph published by the Institute of Rehabilitation Medicine of the New York University Medical Center. Some of the subjects covered by the monograph are: the development of horticulture therapy; the greenhouse at the IRM; basic materials and equipment; an analysis of the basic planting routine; vegetative propogation; therapeutic uses of horticulture; psychological aspects and other benefits; and horticultural therapy at home. For further information write Publications Office, Institute of Rehabilitation Medicine, 400 East 34th Street, New York, New York 10016.

■ The U.S. Department of Health, Education, and Welfare is setting up a computer monitoring system, to be directed by the Center for Disease Control (CDC) in Atlanta. The Center will process data on some one million births a year. More than 1,500 hospitals across the country are expected to participate. The aim of the project is "to detect and follow up unusual patterns in the occurrence of anomalies that may suggest environmental causes." When an unusual pattern does occur, the CDC will work through state and local health departments and physicians to pinpoint the cause.

■ *Dublin for the Disabled,* a guide book recently published by the National Rehabilitation Board of Ireland, contains details of steps, lifts, toilet facilities, etc. for over 340 premises, including shops, guest houses and hotels, theatres and cinemas, and restaurants. A map of Dublin is also included. For further information write Thomas L. Page, National Rehabilitation Board, 24/25 Clyde Road, Dublin 4 Ireland.

■ The concept of community living for mentally retarded persons continues to be implemented in the state of Pennsylvania. The State's Community Living Arrangements program operates group homes and apartments in local communities where the retarded are helped toward independent living. Initiated in 1971. the program is currently providing service to 662 citizens. In addition, 284 persons have been served in the past, 196 of whom are now living independently, and 36 of whom were able to return to their natural parents. The program is aimed at ending "the warehousing of retarded citizens in institutions."

■ Two new electronic devices automatically translate information from teletypes, news tickers, visual display devices and computers into braille. A free standing line embossing device produces braille at the rate of 120 to 180 words per minute on continuous fan-fold paper, for page by page reading. A more advanced model produces unlimited braille copies at the rate of one page every eight seconds or 180 braille lines per minute. For more information about these and other devices write to Triformation Systems, Inc., P.O. Box 127, Wall Street Station, New York, New York 10005.

■ The Human Resources Center, Albertson, New York 11507 houses an extensive rehabilitation research library in the areas of medical and vocational rehabilitation and special education. The library is open by appointment to professional personnel, students, and laymen in need of information in these specialized areas. In addition, monographs published by the Center in the areas of attitudes toward the disabled, employment of the disabled, and special education, are available free upon request.

Appointments

■ Cleveland Society for the Blind: **Fred L. Appell,** associate executive director, fiscal control; **Robert W. Goodwin,** director, food services division; **Mrs. Eleanor Fox;** coordinator, crafts-for-sale program; **Mrs. Leslie Hurwitz,** group worker.

■ American Foundation for the Blind: **Edward T. Ruch,** regional consultant for the Middle Atlantic states; **Morton M. Kleinman,** regional consultant for the New England states.

■ New York Medical College: **Miles A. Galin,** director of research and planning coordinator for the creation of the Eye Institute, the Westchester campus.

Awards

■ American Academy of Achievement, Golden Plate Award: **E.B. Whitten,** National Rehabilitation Association, director.

Coming Events

April 5-6 International Association for the Study of Perception, Annual Conference, Detroit.

April 8-11 American Personnel and Guidance Association, Annual Convention, New Orleans.

April 14-19 Council for Exceptional Children, 52nd Annual International Convention, New York City.

April 25 Association for Research in Vision and Ophthalmology, Annual Spring Meeting, Lido Beach, Florida.

April 26-27 Vision Rehabilitation Clinic, Vision Rehabilitation Course, Boston.

May 7-8 National Braille Association, Regional Meeting and Workshops, El Paso, Texas.

May 12-16 National Industries for the Blind, sales committee of the General Council, Miami.

May 19-24 National Conference on Social Welfare, Cincinnati.

May 24-25 International Association for the Prevention of Blindness, Conference on the Prevention of Impaired Vision and Blindness, Paris.

May 29-June 1 Association for the Care of Children in Hospitals, Ninth Annual Conference, Chicago.

June 24-29 Association for Education of the Visually Handicapped, San Francisco.

July 2-5 National Federation of the Blind, Annual Convention, Chicago.

August 5-16 Rapid Reading Workshop, Culver-Stockton College, Canton, Missouri.

August 7-16 World Council for the Welfare of the Blind, General Assembly, Sao Paulo, Brazil.

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Mr. Higgins is a research fellow at the Centre of Research in Learning and Instruction, Department of Education, Sydney, Australia.

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May 1974 Volume 68 Number 5

THE NEW Outlook FOR THE BLIND

SPECIAL ISSUE

Planning Sex Education Programs for Visually Handicapped Children and Youth

THE NEW
Outlook
FOR THE BLIND

May 1974 Volume 68 Number 5

Articles

193 Do Blind Children Need Sex Education?
Emerson Foulke, Ph.D., and Thomas Uhde

201 The Psychosocial Effects of Blindness: Implications for Program Planning in Sex Education
Geraldine T. Scholl, Ph.D.

210 A Humanistic and Futuristic Approach to Sex Education for Blind Children
David S. Torbett, Ph.D.

216 Starting a Sex Education Program: Guidelines for the Administrator
Derek L. Burleson, Ed.D.

219 The Planning and Implementation of a Sex Education Program for Visually Handicapped Children in a Residential Setting
Ruth V. Holmes

Departments

226 From the Field—Blinded Veterans of the Vietnam War

229 Editorial Notes

231 Review—*Inside Intuition*
Education of the Visually Handicapped
Me Too and *Twyla*

235 Letter to the Editor

237 Current Literature

239 In Brief

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Do Blind Children Need Sex Education?

EMERSON FOULKE, Ph.D.
THOMAS UHDE

Dr. Foulke is director of the Perceptual Alternatives Laboratory and professor of Psychology at the University of Louisville; Mr. Uhde is a medical student at the University of Louisville.

ABSTRACT: This is a preliminary report of a study to learn the extent and accuracy of blind adolescents' knowledge about human sexuality and their attitudes about sexual behavior. The interviews with 18 males and three females cover sources of sex education, sex-related words, sources of advice about sexual problems, and idiosyncratic theories about masturbation, sexual inadequacy, and origins. Also described is a recently launched Human Sexuality Opinion Survey (questionnaires have been sent to 2,000 parents, teachers, houseparents, and others involved in the education of blind persons) intended to gather information about attitudes toward sex education programs for blind children in general and about the methods and content of such programs in particular.

In order to participate fully in the affairs of the world around him, each individual must learn to interpret a continuous stream of stimulation that is in a continuous state of flux. Of all the stimulations to which the human is sensitive, visual stimulation is the most informative, partly because of the pattern resolution of which it is capable, and partly because physical contact with stimulus objects is not required. Because visual stimulation is so informative, and so abundantly present, it commands the attention of those who can experience it, and they tend to acquire those habits of attention that promote successful interaction with the external world.

In the absence of sensitivity to visual stimulation, much of the information ordinarily acquired by interpreting visual stimulation can be acquired by interpreting other kinds of stimulation. However, the stimulation available to the other senses does not have the demand value of visual stimulation, because it is often more difficult to interpret and less informative, and because effort must be expended to establish the physical contact that is a necessary condition for experiencing it.

Seeking Out the World

☐ The world seeks the sighted child. The blind child must learn to seek his world. Yet, in the course of his early development, because of a natural tendency to overprotect him, he is often prevented from learning to seek. To compound this problem, many blind children receive their education in residential schools operated by the states in which they live. In these schools, there has been a tendency to avoid, by carefully supervised segregation, the problems that might result from sexual misconduct. The child who spends much of his life in a residential school misses the opportunity to learn about sexual differences that is afforded by growing up in a family with brothers and sisters. As a result, he may become relatively attentive to internal, self-produced stimulation, and

The authors wish to express their appreciation for the support received from the Rauch Foundation for this project.

relatively inattentive to external stimulation. Such patterns of adjustment are familiar to teachers of visually impaired children.

Social taboos

There are strong social taboos forbidding the acquisition of useful information about the most important stimulus objects in the blind child's world—other people. He can hear them; he can smell them; but, to a significant degree, he cannot engage in the one kind of behavior that could inform him about their physical reality—he cannot examine them by touch. He knows about his own body because he can explore it freely. He is fairly well informed about the bodies of playmates of the same sex. He is less well informed about the bodies of playmates of the opposite sex. He is almost completely uninformed about adult bodies of either sex. By the time he reaches adolescence, he has been brought under the control of the taboos of his society, and is no longer free to explore any body but his own.

Learning through looking

Consider, on the other hand, the experience of the sighted child. He is continuously informed about bodies of both sexes, and bodies of all types and ages. During adolescence, he conscientiously studies the visible details of bodies of the opposite sex. He learns, by witnessing unintended exposures and through pictures, about the normally covered parts of the bodies of other people. The people in the sighted child's world have a physical reality that is urged upon him at every turn.

The Bodies of Others

☐ The fact that the blind child is relatively well informed about his own body and relatively uninformed about the bodies of others further encourages an attentive adjustment to internal, self-produced stimuli, at the expense of external stimuli. He continually tests the reality of his own body but, in terms of the evidence he can collect, many of the people with whom he interacts tend to be disembodied spirits. In setting forth this position, there is no intention to minimize the importance of the aspect of the reality of other people that is specified by their speech. However, a knowledge of other people that rests upon their speech alone is incomplete and insufficient. The blind child needs to know about the variety of physical characteristics manifested by the human species. He needs to know about fat bodies, muscular bodies, thin bodies, tall bodies, and short bodies. He needs to know about the bodies of infants and children and of young, middle-aged, and old adults. He needs to know how the shape of a woman's body changes when she becomes pregnant. He needs to know what makes a female's body pretty, a male's body handsome, and what makes either of them unattractive.

Preventing maladjustment

In the course of growing up, the blind child becomes aware of the emphasis on sexuality in our culture, and a reasonable consequence of this combination of ignorance and curiosity is the creation of bizarre theories concerning the anatomy and the functions of sex. In recent years, there has been a growing conviction on the part of many educators that blind children, more than most, need adequate sex education. They argue that the blind child's lack of opportunity to gain the experience that informs his sighted peers, and the misconceptions resulting from this lack of experience, predispose him to sexual maladjustment in adult life. They argue that efforts to participate in socio-sexual relationships by those who are overly curious, uninformed, and misin-

formed about matters pertaining to sex are likely to be poorly regulated and ineffective. They may be excessively shy or overly aggressive; they may lack the self-confidence and the sensitivity to the nuances of interpersonal interactions that promote the development of mature sexual relationships.

Sex education attempts

On the strength of arguments of this sort, attempts have been made to provide sex education in many residential schools for the blind, though no satisfactory way has been found to show the blind child what the sighted child can see. Though a convincing argument can be made for the desirability of sex education for blind children, the validity of this argument depends, for the most part, on anecdotal evidence. There has been little or none of the systematic observation that would permit an accurate description of the state of ignorance of blind children concerning sex, and no search for the relationship between such ignorance and the consequences that presumably ensue.

A Study of Students' Knowledge and Attitudes

☐ Accordingly, a study has been initiated with two objectives in mind. The first objective is to elicit, by interviewing blind adolescents, reports of their knowledge of sexual anatomy and the manner of its involvement in sexual behavior, and to obtain expressions of their attitudes concerning sexual behavior and its regulation. In order to insure uniformity with respect to the topics covered during interviews, an interview schedule is followed. The second objective is to elicit, by means of questionnaires, the attitudes toward sex education held by the parents of blind children, and by the house parents, teachers, and school administrators who supervise their education.

A progress report

This study has not yet been completed, and the results presently in hand are too fragmentary to support conclusions. Some preliminary results will, however, be presented, because we believe that this is the easiest way to impart a clear sense of the kind of study we are conducting. What follows, therefore, should be regarded as nothing more than a progress report.

In order to insure uniformity with respect to the topics to be explored during interviews, an interview schedule was prepared. The construction of this interview was guided by consultation with members of the staff of the Perceptual Alternatives Laboratory, and members of the faculty and administration at a residential school for the blind.

The Interviewees

☐ The parents of prospective subjects were informed of the nature and purpose of the interviews, and their written permission for participation in the study was obtained. Of all the parents contacted, only one responded in anger and refused permission. Permission to interview 35 subjects was obtained. Subsequently, two girls decided not to participate, and the interviewer decided not to interview one girl. As matters presently stand, arrangements have been made to interview 32 subjects—20 males and 12 females. Of these, 18 males and three females have been interviewed. Subjects range in age from 12 to 20. Since only three females have been interviewed to date, the findings to be presented apply mostly to males.

Procedure

In conducting interviews, an effort is made to cover the topics included in the interview schedule. However, it is not possible to cover topics in a fixed sequence. A topic may bear directly on a personal problem of a subject and this may result in either the postponement of discussion or the early discussion of

that topic. Some subjects show a lack of spontaneity and need the structure provided by an interview schedule. Other subjects talk freely and direct the course of the interview. In granting permission to conduct interviews, school authorities took the position that if, in the course of interviewing, a need for counseling was indicated, the interviewer should provide that counseling; this wish has been respected. Consequently, some topics have received much more discussion than others, and some interviews have required more sessions.

Sources of Sex Education

☐ We asked 18 males and three females to discuss the sex education they had received at home. Twelve of them indicated that they had never discussed sex with either parent. Of these 12, four indicated that they had been given literature by their parents concerning sex. In two of these four cases, the reading matter was concerned primarily with the physiology of menstruation. Nine subjects have reported the discussion of sex with at least one parent. The reports of six of these subjects suggest that they were misinformed by their parents. Most of this misinformation consisted of fairy tale explanations of their biological origins.

Defining sex-related words

Some sex education was included in the course content of one or more courses taken by some of the subjects in school, and thus we were afforded the opportunity to compare those who had had some formal sex education with those who had not. Subjects were asked to define 15 sex-related words. Each response was rated for quality and assigned to one of four classes. If the word was correctly defined, and if the subject had a good concept of the anatomical location and/or the functions normally associated with the word, the response was placed in Class A. A response was assigned to Class B if its author appeared to have an adequate concept of its anatomical location and functions, but did not know the correct term for the concept and used either a colloquial synonym for the correct term or an incorrect term to identify it. For instance, if a subject knew where the penis was located and was aware of its function, but did not know the word "penis" itself, and could only identify the concept with such words as "peter," "ding-dong," "twit-twat," "twinkle-dripper," and "pee-wee," the response was assigned to Class B. To take a specific example, one boy knew that intercourse involved putting "big Johnny in the hole between a woman's legs," but he was not familiar with the terms intercourse, penis, or vagina. A response was placed in Class C if it indicated conceptual inadequacy, even though a reasonably correct definition may have been given. For instance, one subject defined intercourse as "the process of placing your erect penis into a woman's vagina," but after further questioning, asserted that "the vagina is located under a woman's right breast." His response was assigned to Class C. A response was placed in Class D when no definition could be given, or when the definition given was bizarre. One of the male subjects is believed to be mildly mentally retarded and his responses have not been included in the analysis under discussion, but one of his responses is illustrative of the sort of response that would be assigned to Class D. In responding to "menstruation," he said "that's when a boy beats off so much that he bleeds out his vagina." Table 1 gives the number of responses in each class for eight subjects who had received some formal sex education, and for eight subjects who had

Colloquial or incorrect terms

Bizarre definitions

Stimulus Words	Class A		Class B		Class C		Class D	
	Some	*None*	*Some*	*None*	*Some*	*None*	*Some*	*None*
breast	8	6	0	1	0	1	0	0
penis	8	3	0	5	0	0	0	0
vagina	7	1	1	5	0	1	0	1
nipple	8	5	0	1	0	2	0	0
pubic hair	7	6	1	1	0	0	0	1
clitoris	7	0	1	2	0	0	0	6
intercourse	7	5	0	1	1	1	0	1
erection	7	1	1	6	0	0	0	1
menstruation	4	2	2	2	2	2	0	2
lactation	0	0	5	4	3	0	0	4
ejaculation	4	3	3	1	1	0	0	4
orgasm	3	1	5	1	0	1	0	5
conception	2	0	5	3	1	1	0	4
masturbation	7	0	1	2	0	5	0	1
menopause	4	1	3	3	1	0	0	4
Total	83	33	28	38	9	14	0	34

TABLE 1
Sex Knowledge and Status of Sex Education

received no formal sex education. The entries in the first column are the stimulus words for which definitions were sought. The number of responses assigned to Classes A, B, C, and D are recorded in Columns 2, 3, 4, and 5. Each of these columns is a double column, the first number referring to subjects with some formal sex education and the second to subjects with none.

Results

This table clearly shows that, in general, subjects with some formal sex education were better informed about the anatomy and function of sex than subjects with no formal sex education. It should be noted, however, that students with formal sex education had more misconceptions concerning "lactation" and "ejaculation," topics which perhaps were not covered in those courses.

Sources of Advice

☐ Most adolescents experience personal problems that they regard as serious, and these problems frequently involve sex. When such problems arise, they often turn to others for advice. We are asking our subjects to indicate their sources of advice about serious personal problems that do not involve sex, and those that do involve sex. To date, the three sources of advice most often indicated have been father, mother, and a peer of the same sex as the subject who is regarded as his best friend. Table 2 summarizes the answers given by 14 male subjects who have always lived with both parents, and for whom either parent has therefore been available as an advisor.

This table indicates that our subjects turn to their best friends much more often than to their parents for advice about serious personal problems, and that they discuss problems involving sex with their best friends as often as problems in which sex is not an issue. On the other hand, the few subjects who frequently ask their parents for advice when they have serious personal problems, do not consult them frequently when those problems involve sex. Also, we have not found a single subject who never asks a best friend for advice about serious personal problems that do not involve sex, and only three subjects who never ask their best friends for advice when the problem does involve sex. However, five subjects never ask their fathers and five subjects never ask their

TABLE 2
Contingencies Between Type of Problem and Source of Advice

	Frequently	*Never*
Father		
Not sexual	2	5
Sexual	0	11
Mother		
Not sexual	2	5
Sexual	0	10
Best Friend		
Not Sexual	7	0
Sexual	7	3

mothers for advice about problems that do not involve sex; when sex is an issue, 11 subjects never ask their fathers and ten subjects never ask their mothers for advice.

Parents and advice on sex

The preference expressed by our subjects for best friends over parents is a typical finding. Serious personal problems often involve real or imagined misbehavior, and an adolescent boy in trouble is not likely to seek advice from the person who is responsible for regulating his behavior. That those who discuss serious personal problems with their parents discuss nonsexual problems more often than sexual problems is also a typical finding, and it should serve to warn parents against the comfortable but risky assumption that because their child frequently discusses non-sexual problems with them, he would also discuss sexual problems with them if he had any. The finding that more subjects refrain from asking their parents than their best friends for advice about serious personal problems, particularly when those problems involve sex, is complementary to the finding that more subjects frequently ask their best friends than their parents for such advice, and is consistent with our expectations. However, we were a little surprised to find that there were as many subjects who never asked their fathers for advice about non-sexual problems as there were subjects who never ask their mothers (five in each instance), and that the number of subjects who never ask their fathers for advice about sexual problems (11) is larger by one than the number of subjects who never ask their mothers for such advice. Presumably, the adolescent male usually identifies with his father, and when he does, one would expect him to seek advice from his father about serious personal problems, and particularly sexual problems. It may be that the blind adolescent male is less likely to identify with his father than is the sighted adolescent. If the father of a blind child does not expect him to be able to engage effectively in activities conventionally regarded as masculine, such as yard work, fishing, and team sports, the father may withdraw and leave the rearing of his blind son to the mother. In this case, there would be little development of the close relationship between father and son that would direct a son to his father for advice about serious personal problems, and the son would be more likely to turn to his mother for such advice.

TABLE 3
Beliefs About the Consequences of Masturbation

Consequences	*Frequency of Belief*
Depletion of sperm	6
Homosexuality	4
Obesity	4
Mental retardation/insanity	3
Rupture	2
Pregnancy*	2
Anemia	2
Hirsutism	1
Blindness	1
Deafness	1
Premature menstruation	1
Cancer	1
Abortion	1
Sclerosis	1
Acne	1

*Both subjects expressing this belief were female.

Idiosyncratic Theories About Sex

☐ According to the rationale presented in the introduction to this paper, blind children, particularly those who are congenitally blind and overprotected, should be predisposed to formulate idiosyncratic theories concerning the anatomy and functions of sex. Since these theories are generated in the absence of adequate information and since they are private in character, they may be seriously wrong and even bizarre. As suggested by some of the data already presented, such theories were reported to us by a few of our subjects. Although we are not yet ready to give a full account, a few examples can be given at this time.

Masturbation

All of the subjects interviewed so far have, at some time, held the belief that masturbation causes physical or mental damage, and all but five males and one female held this belief at the time of their interviews. The variety of beliefs held by those who accepted this premise is shown in Table 3. Depletion of

sperm was the most frequently feared consequence of masturbation. The following statement, quoted from one of our subjects, is a clear example of the expression of this fear. "See, you hold about a quart of sperm, and after you use it up, it's all over with. I've already used up about three-fourths of a quart. If I use it all up, I couldn't have children, and I wouldn't be able to have sex with my wife, and that would be a problem."

Because theories of the sort under discussion are usually private in character, their development is not subject to the regulation provided by objective tests, and they may become rather elaborate. Consider, for instance, this statement, quoted from a visually impaired subject, who had heard about the possibility of dangerous radiation from the picture tube of a color television set, and who spent many hours each day with his face held within inches of the tube: "I can't shoot off. I can get up, but not shoot off. It's probably radiation poison. Some of the guys warned me that watching TV would dry me up. At home, they were always on my back about watching so much television, but now I don't. They think I've really grown up, but there's no way I'm going to tell them that I'm nearly dried up."

Fear of Sexual Inadequacy

☐ In the parlance of social psychology, a stereotype is a generalization that applies to any individual who can be identified as a member of the class subsumed by that generalization. The person who holds a stereotype recognizes no requirement to test the validity of that stereotype by experience with any individual to whom it presumably applies. Implicit in a stereotype is an expectation or a set of expectations concerning the behavior of those individuals included in the generalization. As the developing child accumulates interpersonal experience, he becomes aware of what others expect him to be and to do, and there is a tendency for the individual to expect of himself what others expect of him. Thus, the objects of stereotypes often confirm the expectations implicit in those stereotypes.

Reacting to the stereotype

There are many stereotypes concerning blindness and, according to one of these stereotypes, blind persons are expected to be impotent and uninterested in sex. The blind child who encounters this stereotype may lack confidence in his own sexual adequacy. Of course, many reactions to the fear of sexual inadequacy are possible, including retreating from situations that threaten exposure or striving to disprove the fear. Several of our subjects expressed the fear that because they were blind they might also be sexually inadequate. It is interesting to consider the account given by one subject who refused to purchase condoms, in spite of repeated entreaties by his girlfriend, because when he first attempted to do so, the clerk asked, "What do blind people use them for?" This query apparently raised an issue that he could not confront with equanimity. He solved the problem by avoiding situations in which the issue could be raised again, in spite of his awareness of the consequences that might result from neglecting contraception. It is tempting to speculate that he might have been seeking the incontrovertible proof of sexual adequacy that would be provided by his girlfriend's pregnancy.

Theories About Origins

☐ In the course of development, the child begins to distinguish between himself and others, and gradually becomes aware of himself as a separate entity.

This awareness leads naturally enough to questions about who he is and where he came from. The question of origin raises the issue of sex and many adults will not talk candidly to children about sex. When confronted with questions about origin, they avoid the mention of sex by resorting to fairy tale explanations, which try the child's gullibility and do little to satisfy his curiosity. The following episode, reported by a female subject, is illustrative. "The only time I ever recall talking to my parents about sex—and I'll never forget it—was one night during Christmas when all my relatives were visiting. A few days before this, I remember asking my mother where I came from. She said, 'From Heaven.' For some strange reason, I just didn't believe her. Well, I got a lot more answers that night. First, I asked my uncle, who said that I came from a head of cabbage. My aunt said that I came from an Indian camp. And finally, another relative claimed he didn't really know, but I was either found under a rock or hatched from turtle eggs. I remember going to my room and crying. I didn't understand why everyone was lying, but I knew they were for some odd reason, and this may sound funny, but I was sure it was because I was different—because I was blind." A child might not need too many experiences of this sort to conclude that blindness was the result of something adults found too shameful to discuss. It would not be surprising if any subsequent effort to arrive at a satisfactory explanation was carried out in fantasy, without the benefit of objective information.

Adult equivocation

☐ We are interviewing blind children in an effort to determine their need for sex education. If this need is established, additional information must be gathered before actions designed to address that need can be taken. A well conceived plan for a program of sex education for blind children should take into account the attitudes about such a program held by those involved in the education of blind children, and their opinions concerning the proper methods and content. We are using a questionnaire to solicit expressions of these attitudes and opinions. In developing this questionnaire, we first constructed a preliminary questionnaire. The selection of the items included in the preliminary version was guided by the consideration of data obtained from some of the earlier interviews, the examination of questionnaires concerning sex education developed by other researchers, and by consultation with staff members of the Perceptual Alternatives Laboratory and a residential school for the blind. This preliminary version was administered to several trial groups and, with the data thus obtained, the final form of the questionnaire was determined. This questionnaire has been sent to the parents of interview subjects, and to teachers and houseparents in 27 agencies engaged in the education of blind persons, located in 19 states. Approximately 2,000 questionnaires have been sent out. To date, 536 questionnaires have been returned. Since this return is incomplete, no analysis has yet been attempted. The analysis of returned questionnaires will be undertaken during the summer months of 1974.

The Human Sexuality Opinion Survey

Final questionnaire

☐ As we indicated at the outset, this has been a progress report. Consequently, the results we have presented are only suggestive and will not support conclusions. This is especially true with respect to the interview data. The compo-

Conclusions

(Continued on page 209.)

The Psychosocial Effects of Blindness: Implications for Program Planning in Sex Education

ABSTRACT: The initiation of programs in sex education and family life in schools and agencies serving blind persons requires that consideration be given during the program planning stage to identification of developmental needs. Selected factors in the physical, mental, emotional, and social developmental process are described and related to certain aspects of program planning. The influence of variables related to blindness itself and to characteristics of the individual and/or his environment are discussed as they may be related to the needs and characteristics of any one individual blind person.

GERALDINE T. SCHOLL, Ph.D.

Dr. Scholl is professor of education in the School of Education, Program of Special Education, The University of Michigan, Ann Arbor.

Effective program planning must take into account the needs and characteristics of the group to be served. This principle is particularly applicable to educational programming. The curriculum must be designed to meet the developmental needs of the learner on his present level of functioning and, through sequential experiences, to guide him to the next higher level. Such planning requires a background of theoretical knowledge in all aspects of growth and development—physical, mental, emotional, and social—and in the learning process.

The Interest in Sex Education

☐ Increasing numbers of schools and agencies serving the visually handicapped are recognizing the need for, and their responsibility to provide, programs in sex education and family life. This curricular area has long been neglected—leaving the visually handicapped young person to acquire his information, or more frequently misinformation, from peers, both sighted and blind, who usually have little more knowledge than he. Indicative of the interest in this area was the enthusiastic reception, in 1972, of the pilot edition of *Sex Education and Family Life for Visually Handicapped Children and Youth: A Resource Guide*, the final edition of which is now in press (Dickman, 1974).

The effects of blindness

To be effective, these programs must be built upon the available body of knowledge concerning the psychological and social effects of blindness. It should be recognized that individual differences among the group of persons labeled as "blind" or "visually handicapped" are greater than differences between members of that group and so-called normal persons. Further, the effect of blindness *per se* on an individual is influenced by a number of variables, some well known and others not so widely recognized, but each having a unique impact. Finally, the psychological and social effects of blindness on the development of the individual present a complex set of interrelationships that are not easily described. In the light of these difficulties, this paper should be viewed as a broad overview of the topic. Readers wishing information in greater depth are referred to Connor and Muldoon (1973), Cutsforth (1951), Lowenfeld (1971, 1973), and Scholl (1973).

To provide a base for discussion, the variables which are related to the im-

pact that blindness may have on the individual need to be identified. These include characteristics related to blindness itself and characteristics of the individual and/or his environment.

Frame of Reference

☐ The visual impairment itself may be: total or partial; present at birth or acquired either traumatically and suddenly or gradually over a period of time; caused by numerous etiological factors, some of which affect the visual system alone, while others permeate additional aspects of an individual's functioning. For the purposes of this paper, the following frame of reference for these variables is adopted: total blindness; cogenital, that is, present at birth; and a cause of blindness which is not accompanied by other impairments. The actual number of individuals who could be described in this way is probably relatively small. However, this delineation represents the lowest limits for variables related to the impairment itself. Variations accompanying less extreme characteristics will be noted in a later section.

Characteristics of the individual and/or his environment include: the presence of one or more additional disabilities other than blindness; environmental characteristics, such as the socio-economic status of the family, marital status of the parents, and all possible variations of position in the family. For purposes of this paper, the frame of reference adopted will be normal intelligence, with no other disability, and middle-class, intact family. Further, the focus will be on the effects of blindness during the years from birth through adolescence. Again, variations will be noted in a later section.

Finally, the psychological and social effects of blindness on various aspects of the developmental process are discussed as though each aspect were discrete, so that effects may be identified more easily. In reality, physical, mental, emotional, and social development are interrelated and difficult to separate.

Effects on Development

☐ There is relatively little definitive research concerning the effect of blindness on the developmental process. This situation is understandable in the light of the small numbers of visually handicapped, particularly in the age group from infancy to adulthood; the extremely diverse and heterogeneous population, which makes generalizations difficult; and the wide geographical distribution of the blind, which complicates sampling procedures. Much of what is known and accepted, therefore, is based on observation and descriptive studies.

This section summarizes the effects of blindness on selected physical, mental, emotional, and social aspects of development. There will be no attempt to suggest remedial techniques to counteract deficiencies in the developmental process. To do so would be beyond the scope of this paper. However, some guidelines for sex education programs will be included.

Physical and motor activity

The physical growth process itself is not affected directly by the visual impairment. However, lack of vision does retard the development of physical skills, especially those learned by imitation. Walking may be delayed, partly because vision provides a powerful motivating force to be ambulatory. Childhood activity skills, such as skipping and jumping rope, may require more direct teaching than for normal children. The use of hands and fingers for performing activities requiring fine muscle coordination may be limited, because generally the environment provides few opportunities to engage in large mus-

cle activities on which fine muscle coordination is built. The role of vision in the imitative process is recognized as being essential for developing childhood motor activities and direct intervention is often employed to teach needed physical skills. Movement education has been found to be particularly beneficial for blind children. However, its importance is often overlooked for the adolescent and there is a tendency for parents and teachers to neglect teaching those physical and motor activities that are a normal part of adolescent life, such as dancing, greeting one's date, and adopting the current fad in mannerisms that typify adolescence. The blind adolescent and young adult may need direct teaching to acquire skills, such as dancing, lighting and holding a cigarette, and, particularly during the stage of rapid growth, how to manage awkward limbs.

Restricted mobility

Perhaps the most serious effect of blindness lies in the restriction on mobility. The blind child or adolescent is lost when placed in an unfamiliar environment. In addition, his level of activity tends to be lower because the potential dangers around him, which he cannot see, make him proceed slowly and cautiously; this further contributes to increased tension, resulting in unnatural physical movements. The inactivity may also lead to weight gains, especially during adolescence, and a cycle of increased weight-decreasing activity may be initiated. Groups, such as Weight-Watchers, may be necessary to stimulate interest and motivation for achieving and maintaining optimal weight for height. In addition, movement education, mentioned above, and other forms of physical recreation are recommended to give the individual an understanding of the use of his body in space.

Appearance

Blindness also has an indirect effect on physical or personal appearance. Children learn how they look to others through the feedback provided by mirrors. The mirror is an important critic for physical appearance beginning as early as two years of age and continuing throughout one's lifetime. Lack of vision deprives the person of this very valuable resource in assessing personal appearance in comparison to peers. Experiences in feeling clothing, facial features, body structure, posture, etc. may be necessary to provide the blind adolescent in particular with some notion of how he "looks" relative to his peers. It is unfortunate that social taboos against touching are applied to educational experiences for the blind since their only access to the object world is through the sense of touch.

Mental Aspects

☐ The effects of blindness are probably most serious in the area of mental development and more specifically cognitive development. Some concepts, such as color, three-dimensional space, and perspective, can never be grasped because they cannot be experienced, even imperfectly, through other sensory modalities. Learning about the object world must be acquired through touch since hearing alone can give no information about the characteristics of objects. Objects which are too complex, too large, or too minute for the sense of touch cannot be experienced. Even though an object may be experienced through touch, certain characteristics integral to complete understanding may not be, for example, a bird in flight.

Realia and models

Educators working with blind children attempt to utilize the real object, if

possible; if not, then models or replicas; and if these are not available or appropriate, verbal descriptions are used to communicate some notion of the concept being taught. To date, there has been little success in adapting two-dimensional pictures of three-dimensional objects for the sense of touch. Even models constructed accurately to scale cannot communicate essential characteristics, such as the soaring height and grandeur of the Washington Monument. Similarly, models of tiny objects, such as an insect, constructed large enough to be explored by the sense of touch, will miss its true nature. Models are also deficient in communicating the texture of an object, such as the feel of living human skin. Thus, characteristics which are an inherent part of a concept may not be communicated clearly through models.

Verbal descriptions

Verbal descriptions of concrete objects have obvious weaknesses. It is often difficult for two persons to agree when describing the same thing; comparisons with something known to the child may not be accurate because significant differences can be overlooked. With all the weaknesses, however, verbal descriptions may be the only means available to the parent, teacher, or counselor in helping the blind person gain knowledge of the world around him. The danger of over-reliance on verbal descriptions lies in encouraging verbalism, where words used are empty and without meaning. Cutsforth (1951) criticized early educational programs for their emphasis on verbalism in communicating concepts to blind children.

Dilemmas for Sex Education

☐ The foregoing discussion identifies a dilemma when programs in sex education and family life are developed. If the principle that real objects, followed in descending order by models and verbal descriptions should be employed in teaching about sex, broadly defined, then schools and agencies should use live persons for demonstration rather than models which are deficient in conveying texture or life even when they are constructed to scale. However, few schools and agencies would adopt such a program because American societal pressures are too strongly against such a practice. Live models for sex education programs are used in some Scandinavian countries (Sex and Handicapped, 1974). Perhaps parents of preschool blind children who feel comfortable with themselves and their own sexual feelings may be encouraged to begin at the toddler stage to have the child explore his own body as well as those of family members in natural situations, such as the shower, in order to learn of physical sex differences, as well as to develop a sense of body awareness. Without such direct experiences, blind male adolescents will increasingly observe as one did that he knows *what* a girl's breasts are but doesn't know *where* they are.

Reading matter

Lack of vision further restricts the blind person in his access to the printed word. While technology has increased the rapidity with which the printed word can be translated into braille or recorded form, there is still a significant lag in an age when information from the printed page is needed instantly. In addition, neither the tactile nor the aural modes of reading lend themselves to scanning, an increasingly important skill as the volume of printed matter increases. Of greater relevance for programs in sex education and family life is the lack of input from the visual world of television, magazines, and other forms of advertising which provide the sighted person with a wealth of in-

formation regarding the human body. Of course it should be noted that access to TV is not all disadvantageous! A two-dimensional, tactile representation of the centerfold of *Playboy* can never equal the visual picture.

The important role of vision in the educational process places the blind child at a serious disadvantage in learning about the world around him through limiting his direct as well as his indirect contacts. In addition, "touching" or "feeling," the major method for the blind person to learn about the object world, is not considered a socially acceptable avenue for direct experience, especially during adolescence and adulthood.

Emotional Aspects

☐ One of the crucial emotional developmental tasks is the formation of self-concept. Some researchers question whether the congenitally blind child can develop an adequate and realistic acceptance of self. From the beginning, the blind infant encounters difficulty in distinguishing the self from the non-self because vision plays such an important role in this process (Burlingham, 1965). Later, he lacks feedback from the mirror in learning how he appears to others. When he begins school, his inability to perform childhood tasks through imitation labels him as being different and may contribute to a de-valuation of himself as a person. On the other hand, family and peers may over-emphasize certain abilities so that an unrealistic evaluation of the self is acquired, one which then is deflated during adolescence or early adulthood. A classic illustration is the frequent encouragement of blind persons with average talent to become professional musicians. Realistic appraisal of abilities is difficult for the normal individual, but more so for one who is handicapped and who needs encouragement to acquire a healthy self-concept that is, at the same time, based in reality.

Programs in sex education must include attention to the development of an adequate acceptance and concept of the self relative to peers and the environment, as well as attention to the development of a sexual identity. This process begins in the cradle and continues throughout the life-cycle. Activities emphasizing this aspect of development should be included in the total curriculum and not be confined to sex education (Lydon & McGraw, 1973).

Independence

Adolescence may be fraught with greater difficulties for blind children. The natural striving toward independence during this period is thwarted by the presence of a dependent disability. The desire for conformity to peer mores is frustrated by a visible disability that precludes any possibility of being like one's peers. The normal concern over a rapidly growing and changing body is intensified when feedback from family, peers, and a mirror is missing. Added to these are the anxieties over whether employment is a feasible goal and whether a suitable marriage partner will be found. The grim realities on which these anxieties are based make them particularly difficult to handle effectively. All these difficulties, while not direct effects of blindness, must be recognized as critical during adolescence when the young person is striving to become a person in his own right and is struggling with his own identity. It should also be noted that the cultural stereotype of the strong, independent, and dominant male adds another burden for the blind boy as he faces adolescent problems and conflicts centering around his dependent disability.

Social Aspects

☐ The social effects of blindness include factors outside and often beyond the

control of the blind person and of the parents and professionals working with him. Society attaches a significance to blindness that spreads to the individuals so labeled (Monbeck, 1973). As a dependent and visible impairment, blindness arouses pity and sympathy. Its early association with venereal disease attaches a stigma of being "dirty" and blind persons are considered outcasts. The negative values associated with all deviations from the norm tend to be greater for the blind, because fear and mystery have long been associated with the eye and those who have no eyes or who lack vision are considered more imperfect than other disabled groups.

Role expectations

These cultural and social factors result in the assignment of a certain role and thus a specific role expectation to the blind person. Behavior deviant from the expected role is often not accepted or acceptable. For example, some view the independent professional blind person with suspicion because his functioning is not consistent with the common cultural expectation of a dependent blind beggar. In addition, people frequently do not know how to respond to or interact with a blind person because of a lack of knowledge and experience.

The social interaction gap

The blind person is often unable to assist in bridging the social interaction gap. Social skills and experiences with sighted peers are, unfortunately, often neglected in the educational process. Some social skills must be taught to the blind child, though they frequently are not because parents and teachers tend to overlook their contribution to ultimate adult adjustment. In addition, blindness deprives the person of a critical avenue of social interaction: non-verbal communication. Much is communicated between and among persons without words. Approval is expressed by a smile, disapproval by a frown; attention is attracted to oneself by body and facial demeanor; the attention of others is solicited by a wink or meaningful glance. Recently, the interest of researchers has been directed toward various forms of non-verbal communication in the normal population. However, little has been done to explore possible forms of non-verbal communication that can be employed by blind persons in their social interaction with both blind and sighted peers.

Non-verbal communication

The lack of basic research on non-verbal communication for the blind should not deter parents, teachers, and counselors from exploring this avenue for teaching techniques. Smiling and turning the face in the direction of the speaker have long been encouraged by parents and teachers in educational programs. The creative parent, teacher, and counselor will find ways to teach such non-verbal cues as winking and flirting at the appropriate time in the developmental process, and should be alert to teaching the current fads and behaviors of the peer groups so that the blind person too can "belong." Similarly, young adults should be taught cocktail party behavior and social interaction skills with members of the opposite sex. Much of non-verbal communication is learned through imitation by the sighted person but must be taught to the blind person.

Mannerisms

Some blind children and adolescents acquire mannerisms which set them apart from their peers. There are several causes postulated for those mannerisms and the reader is referred to Knight (1972) and Scholl (1967) for a more detailed discussion, as well as for suggestions for dealing with the elimination

of such habits. For social acceptability, such mannerisms should be eliminated, although the philosophical issue remains concerning the cost of behaving *like* a *normal* person when one is not and cannot *be normal* (Wright, 1960).

The Individual Blind Person

☐ These then, very briefly, are the effects of blindness on the physical, mental, emotional, and social development of the congenitally, totally blind child of normal intelligence who has no other disabilities. As stated earlier, persons thus labeled are rare. This section will attempt to relate the influence of the variables, identified earlier, that contribute to making each blind person a unique individual to the developmental process just described. It should be noted that individual variations exist and that exceptions to the general observations presented in this section can always be cited. The purpose is to identify some general principles that may be useful in working with blind children and adolescents.

When, how, how much, why

The when, how, and why of the visual loss and the degree of residual vision are important factors in determining the effects of the impairment. In general, the concepts formed, knowledge gained, and motor skills acquired prior to the loss of vision will be on a higher and more complex level than if they are learned after the loss of vision. A traumatic loss of vision at any time during the life of an individual may be more conducive to the development of emotional problems than a gradual loss; loss of vision during critical periods, such as adolescence, may be accompanied by greater emotional trauma than during other periods; loss of vision, especially during childhood, may cause the child to regress temporarily to a lower level of development. The guilt of parents when a hereditary cause of blindness is involved may be communicated to the affected child and have a negative effect on his emotional development; this may also be true for parents with imagined guilt feelings regarding their child's visual loss. It should be noted that those with hereditary causes of blindness may need specialized genetic counseling during adolescence (Jolly, 1967). Some causes of blindness contribute to other disabilities that may be prevented if intervention is initiated early. Any residual vision can facilitate the learning process, especially in the cognitive areas, and optimal use of vision should be maximized both by visual training and by low vision aids. Programs should encourage maximum use of all sources of sensory input (Barraga, 1973).

Additional disabilities

Unfortunately, the population of the visually handicapped includes a large proportion who have other disabilities. The number and variety of combinations is too great to discuss their effects on development in this paper. Two guidelines may be proposed: first, knowledge of the characteristics and impact of the other disability or disabilities on the developmental process will be necessary in order to work effectively with the child; and, second, the potential interaction effects should be recognized, that is, the blind child with another disability does not have blindness plus the other disability, rather the interaction of blindness with the other disability may be greater than if the two disabilities were considered additively. The reader is referred to Hatlen (1973) and Wolf (1967) for additional suggestions and references.

Environmental influences

Environmental characteristics and their contribution to the effects of

blindness on the individual can only be inferred. The blind person who is black, Mexican-American, Indian, or a member of any other minority group must cope with that minority status as well as the minority status of his blindness. As noted above in the case of multiple impairments, the interactive effects may be greater than the sum of the two states. Community attitudes toward the blind, as well as toward other disabled and minority groups, become critical in the social and vocational areas and can have an effect on adjustment. The family constellation is particularly important since there is some research evidence that the adjustment of the blind person is related to the adjustment of the parents to him and his blindness (Cholden, 1958; Cowen et al., 1961). The influence of the position of the blind child among his siblings undoubtedly plays some part in his development, but little has been done to study this effect.

The intent of this section has been to identify possible variables that can contribute to the unique effect that blindness may have on an individual. The ones selected are illustrative and not exhaustive of the possibilities. As with most sub-groups, within-group differences tend to be greater than between-group differences.

Summary

☐ As one reviews the potential psychosocial effects of blindness and the innumerable individual and cultural variables that may contribute to how any one individual adjusts to the disability, one is forced to conclude that generalizations applied to a particular person are out of the question. Each blind person, whether child, adolescent, or adult, will react in his own way, out of his background of experiences, and within the opportunities offered by his environment. It is unreasonable to assume that what happens to one will happen to all. Instead, each must be viewed as an individual and treated so.

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Do Blind Children Need Sex Education?—*Continued from page 200.*

sition of the group to be interviewed should reflect the systematic variation of several important factors. Males and females should be represented in equal proportions. The ages of subjects should be evenly distributed throughout the age range of interest. There should be an adequate representation of congenitally and adventitiously blind subjects. Visual status should be varied systematically from total blindness through several degrees of visual impairment. Subjects should be drawn from several residential schools for the blind and from several public school programs. Perhaps the most serious shortcoming of the present study is the lack of a control group of sighted subjects.

We knew at the outset that we would not have access to enough subjects to permit the proper composition of a subject group, or enough money to meet the research expenses that would be generated by a study of the proper scope. However, we decided to proceed in the hope that our study would be a useful first step toward a more adequate investigation.

A Humanistic and Futuristic Approach to Sex Education for Blind Children

DAVID S. TORBETT, Ph.D.

Dr. Torbett, formerly with Temple Buell College, Denver, is now with the Family Enrichment Center, also in Denver.

ABSTRACT: Sex education programs for blind children must take into account the sexual negativism of American culture and work to overcome resistance to the use of touch so necessary to learning by blind children. Full access to the sexual culture needs to be made available to blind children through ending the censorship of sex-oriented literature. Both teachers and parents need a great deal of help in overcoming their own insecurities about sexuality so that they can better educate their children in this crucial area.

Vance Packard in a recent work has characterized America as a sexual wilderness, while other authors suggest we are in the midst of a sexual revolution. Whether wilderness or revolution, the American scene is one of sexual negativism. One need only ask students, religious groups, parents, or persons on the street about their past sexual experiences to find such negativism emerging. Negative experiences range from guilt feelings about nudity and anxiety in respect to masturbation through concerns about breast size and the adequacy of one's sexual identity. In a study completed by the author of this paper in which college students were asked to spend five minutes recalling positive and negative sexual experiences, it was found that 78 percent of the recorded experiences were negative in nature.

Mythological orientation

Another feature of the American scene is its mythological orientation, found recorded on bathroom walls throughout the country. The importance of the size of the sex organ for dynamic intercourse is portrayed vividly by way of graffiti, often illustrated with appropriate drawings. The size myth, while still influential in respect to male-female sexual interchange, has been well exploded through research completed by Masters and Johnson. While abortions are sometimes of a spontaneous nature, the suggested approaches to shaking loose a pregnancy by way of strenuous exercise and jumps from high places would be better suggestions for physical education majors and sky divers than for impregnated females. A final feature of the American scene is its continuous bombardment of individuals, via mass communications, with sexual stimuli of both a mythological and sales-promotional nature. Everything from toothpaste to mattresses are sold by way of sexual suggestions. We are, however, experiencing a communication blackout in homes, schools, and institutions with respect to sex education. While male dolls may be sold along with small bottles of cologne helpful in sexually attracting members of the opposite sex, they are, with only a couple of exceptions, devoid of sex organs.

The Need for Sex Education

☐ Into such a social context are born each year hundreds of thousands of boys and girls destined to become aware of themselves as male or female in a negative, mythological, and non-communicative fashion. The lack of sex education in America is of great consequence to all human beings, blind or other-

wise, and adequate educational programs should be a high priority for parent educators and school personnel throughout the United States. Such programs, if instituted, would do a great deal toward producing socially, emotionally, and sexually mature individuals, whether they are blind or sighted. Thus, the suggestions for a sex education program spelled out in this paper, while oriented toward a specific segment of the population, the blind individual, would also be useful to sighted individuals.

The role of vision

The obvious difference between being blind and sighted is the inability of the blind individual to conceptualize by way of visual perception. However, the individual blind from birth or at such an early age that visual recording has not taken place must be distinguished, with respect to sexual awareness, from the individual who has lost his or her vision after visual perceptions have been transformed into mental constructs. A further distinction should be drawn between the blind individual who has been reared within a sighted milieu and one who has been insitutionalized throughout most of his or her life. My first suggestion would be that we do away with all institutions for the blind and develop programs incorporating the blind individual into a sighted society. While this suggestion may well gloss over the need for specialized attention for blind persons within some kind of structured environment, I feel strongly that unless such a radical change takes place we will be developing programs for dealing with symptoms rather than the basic problem.

The Sense of Touch

☐ The world of the blind person is not different from that of the sighted. However, the blind person receives his or her awareness of the world by way of the other senses. While sounds and smells are useful in understanding, the real brunt of awareness is borne by the sense of touch. The necessity to discover one's world by way of touching it has important implications for the development of sex education programs for the blind. Sighted individuals are able to identify symbols which in turn are used to convey sexual meanings. The major difference between the sighted and the blind person is that the sighted person perceives pictorially without the need for tactile exploration. Thus, in any adequate sex education program for the blind opportunities must be provided for exploration of one's own sex at various stages of the growth cycle, as well as opportunities for developing awareness of opposite-sex differences.

Human models

To date, few programs if any in the United States provide human-like models for tactile exploration by blind individuals, as does the program used by the Bartimeus at Zeist, The Netherlands. The homes of blind children are lacking in the available models necessary for such tactile exploration and their mothers and fathers would experience great anxiety if they were asked to allow brothers and sisters to use each other as human models in discovering a part of their sexual world. Most parents would also find it difficult to allow their blind children to become aware of sexual differences by casually exploring the parents' nude bodies, making comparisons, drawing conclusions, and asking questions. The parents would probably be supported in their hesitancy to allow their blind children the use of their bodies as tactile areas for exploration by Freudian psychiatrists who would see this as propelling the blind child into a parent-fixated neurosis or psychosis.

☐ The blind child becomes aware of his or her world by way of re-presented symbolic attachments to behavioral acts. It is in this way that the child becomes aware of himself, others, and the world in general. Through this process, the child also acquires a set of symbols for labeling, requesting, and relating. One's sexual identity emerges out of sex-type re-presentations (name, toys, dress, and games) and by way of parental and peer pressures most of which are anti-opposite sex in nature. During puberty the sighted child is socialized into an appropriate cultural package by way of educational filters, i.e., parental and mass media messages, most of which are linked closely to visual experiences in respect to self-others and the world in general. On the other hand, the blind child is socialized into a world devoid of visual perceptions and filled with others' projected fears. The parents of the blind are caught up in the reality of having to deal with an exceptional child in a world where wholeness and perfection are rewarded. Such parents find themselves faced with the anxiety of having produced an imperfect product. Thus, the stigmatizing process starts with parental guilt being projected onto the child. This process is furthered by institutional placement which stresses the difference between blind and sighted individuals. Many institutional programs segregate the sexes out of fear of youthful sexual experimentation and concern about intermarriage. Finally, the blind person is placed in an "appropriate" job, thus perpetuating the farce.

Effects of stigma

While the stigma of blindness has general implications for one's local lifestyle, the impact on one's sexual-identity formation and anatomical awareness is devastating. The blind child, cut off from the world of sexual stimulation, finds his tactile exploration limited to his own body. Furthermore, the dolls that serve as miniature humans are devoid of distinctive sexual anatomies. Reading materials, while screened for sighted children, are nonexistent in braille and sexual materials which reflect current cultural themes, confusion, and myths are seldom if ever read aloud to the blind child. While few high schools in the United States have adequate sex education programs for sighted youngsters, institutions for the blind are even more lacking. Life-like models of the sexual anatomy, composed of materials with a life-like feeling, are for the most part non-existent today.

Exposure to the sexual culture

I would suggest as a first step in developing sound sex education programs for the blind that blind individuals be exposed to the same kind of sexual culture experienced by the sighted. Such cultural experiences would include early opportunities for tactile exploration of their own and other children's bodies; that the dolls used by blind children, as well as those for the sighted, be provided a normal sexual anatomy along with the rest of their biological equipment; that children be exposed by way of reading materials and other forms of mass media to the sexual world of the sighted. Such exposure could be provided by parents, peers, and teachers reading aloud from a wide range of materials including sex-oriented novels, love stories, and *The Sensuous Woman*. Further exposure for blind children should take place within a heterosexual context made up of sighted and blind children and should permit the same freedoms and experiences that funnel sighted children into adult sexual roles. The idea that blind children will be more easily stimulated by way of tactile experiences

would seem to be a myth, since at this point it is not supported by empirical data. This idea is much like the potency myth used in differentiating blacks and whites in regard to sexual appetites. All educational experiences of the blind child should take place within a nonstigmatizing milieu and in such a way that the blind child will be exposed to the same sexual world as would be the case for the sighted child.

Teacher Training

☐ In the United States most blind children are dealt with by persons trained in special education who are prepared to work with a wide range of persons who have physical, emotional, and perceptual handicaps. While such teachers learn a great deal about methods, techniques, and the special problems of handicapped children, they have had little preparation for dealing with the sexual questions, concerns, and feelings of their students. They themselves are products of a sexual wilderness and an educational program devoid of sexual information. Thus we must develop training programs for those individuals in special education and ideally with all teachers in all schools who will deal with sexual questions as well as ones about reading, writing, and American history. Since ideal and reality are often socially far apart, I would suggest that we start with the staff of all institutions for the blind and begin to do in-service training and develop special workshops toward understanding, desensitization, and communication.

Facts and feelings

The importance of feelings as well as facts must be incorporated into such training programs by way of sensitivity sessions and encounter experiences. From the staff involvement in the training programs specific individuals should be selected for exposure to further educational experiences designed to equip them to lead training programs with their own staff. Another approach to developing well-equipped teachers in the area of sexuality would be to draw on competent professionals (marriage counselors, sex educators, psychiatrists currently involved in the immediate community) to staff such training programs, identify promising personnel, and work with them individually toward greater awareness and ability to deal openly with sexuality. Finally, efforts should be made to influence institutions responsible for training special education teachers to introduce human sexual behavior courses, sensitivity sessions, and encounter experiences into their requirements.

Parent Education

☐ The family provides role-models that impact themselves on the identity formation of their children. This socialization function is important as a means of transmitting general attitudes about sexuality. There is no such thing as a non-sex-educating family, but research suggests that the sexual area is the one most often neglected by parents. Data cited in *Human Sexual Behavior*, by James McCary, suggests that nearly three-fourths of a group of honor students wish their parents would have openly answered their sexual questions. Studies completed by the author at the University of Minnesota and Temple Buell College indicate that less than one-third of the students taking courses in marriage, family, and human sexual behavior received any kind of information at all pertaining to basic sexuality from their parents. The following quotation, excerpted from a student's paper, suggests the usual approach of parents to dealing with basic menstruation.

I didn't receive any information from school or home about sex until the sixth grade and this was very insufficient. We took one day off from playing kick-ball in our gym class in order to see a film on menstruation while the boys saw a film on the development of their sex. Since the school informed our parents that this film was being shown my Mom very nervously brought out a box of Kotex and proceeded to explain how I'd use it and then handed me a small booklet to read. That ended my instruction until I was a sophomore in high school. During my sophomore year I had a health course which mainly emphasized cleanliness, venereal diseases, and some psychology. Boys and girls took this class separately and never interrelated in any way. The material was very impersonal and I felt I couldn't relate to it. We never had any discussions and when a pertinent and interesting question was brought up the teacher was stunned and either ignored it or referred the individual to someone else. During my junior year I became inquisitive about the human body and sex relations, yet no information was given. Thus I began getting all the wrong information in the wrong way by looking through magazines and dirty books with friends.

Developing a program for parents

Parental hesitancy in respect to sex education is even more striking for blind children whose parents would have to read sexual materials aloud to their children and provide them with living or artificial models for tactile exploration. Thus a crucial feature of any sex education program for the blind must include sound parent education. Such education should be provided for parents from the time they know their child is blind, starting with medical personnel trained to reduce parental guilt feelings about having produced an imperfect child. Such discussion should stress reality acceptance of the child's blindness and the child's ability to deal adequately with his or her environment within a sighted world. The importance of tactile exploration as a means of exploring one's world, especially in respect to the sexual realm, should be openly confronted. In the initial session with parents, use should be made of blind counselors who would provide parents with examples of how blindness has not prevented them from leading a meaningful and productive life. The second phase of a parent education program should take place in the home of the blind child with the emphasis being placed on providing factual information and creating attitudes toward tactile sexual exploration as a normal approach to gaining sexual awareness on the part of their blind child. By way of open interchange between the sex educator and the parents, sexual desensitization should be accomplished and channels of communication be opened for further use with blind children. The importance of non-verbal communication as it relates to sexual exploration, expression, and interchange should be stressed.

The parent as educator

The third phase of parent education would be the selection and further training of outstanding parents who would in turn carry the program to the parents of other blind children within the community. The fourth phase of parent education would involve parents in programs oriented towards providing sex education in the schools from kindergarten through high school. Such education programs, while designed primarily for the blind, would benefit sighted children as well. Sex educators for such a parent education program could be drawn from the specially educated core of teachers already dealing with the institutionalized blind, professionals from the immediate commun-

ity, or organizations such as the Sex Information and Education Council of the United States, the National Council on Family Relations, and Temple Buell College Family Studies Center.

Resources and Materials

☐ In respect to sex education for the blind child, the development of braille materials now used in sighted sex education programs should be completed and brought up to date. Recordings of a wide range of sexual materials, including *Playboy Magazine*, *The Sensuous Woman*, and *What to Tell Your Child About Sex*, should be completed. Life-like models of the human body, including their sexual anatomy, should be constructed and produced in a variety of sizes and shapes in order to provide the blind child with tactile experiences that are as realistic as possible. Opportunities for involving blind children in verbal and tactile sensitivity experiences should be provided within mixed sex and sighted groups. While emphasis here has been placed on the development of materials to be used by blind children from infancy through college, programs should be developed for blind persons of all ages.

Summary

☐ Sex education for the blind is a most worthwhile venture and one that is far overdue. While sex education takes place within a negativisitic, mythological, and non-communicative setting, its importance to identity formation, effective relating, and meaningful living is obvious. For the blind child, an effort must be made toward reducing stigmatization, especially by way of institutionalized programs. In order to adequately educate persons in respect to their own sexuality, educators themselves must become aware and at ease in respect to their own sexuality. Because the blind child is different and must learn to operate within a sighted world, parents must be incorporated into the education of their children. The fact that blind children view their world tactilely necessitates the development of special equipment useful in conveying reality information pertaining to one's own and other's sexuality. Perhaps these remarks will serve as a catalyst in bringing about professional interchange toward the end of producing a sex education program for blind children.

An Additional Article on Sex Education

"Sex Education as Part of an Agency's Four-Week Summer Workshop for Visually Impaired Young People," an article by Mary Lou Karpen, M.A., and Lee Ann Lipke, R.N., was originally scheduled to be a part of this special issue of the *New Outlook*. Unfortunately, because of space limitations, it could not be included; it will, however, be published in the June 1974 issue of the *New Outlook*.

Starting a Sex Education Program: Guidelines for the Administrator

ABSTRACT: The school or agency administrator bears the primary responsibility for the successful implementation of a family life and sex education program. An advisory committee, adequate publicity and public relations, provision of specialized training (including the budgeting of time and funds) and appropriate materials, and the careful selection of teaching staff are important areas with which the effective administrator must concern himself.

DEREK L. BURLESON, Ed.D.

Dr. Burleson is director of educational and research services, Sex Information and Education Council of the U.S.

Sex education is still for many a sensitive, controversial, and frequently misunderstood area of the curriculum, but one which is nevertheless very important—not only for sighted individuals, but also for those with a visual handicap. Because of this, the American Foundation for the Blind (AFB) and the Sex Information and Education Council of the U.S. (SIECUS) undertook a three-year cooperative effort to develop a resource guide that would serve as a basis for program development in schools and agencies serving visually handicapped persons. The culmination of this work, which involved hundreds of teachers, counselors, administrators, and blind persons themselves, will be the publication this summer of *Sex Education and Family Life for Visually Handicapped Children and Youth: A Resource Guide.*

Local Leadership

☐ The success of the *Resource Guide,* and thus of the project that produced it, depends upon the willingness and ability of local leadership to take up the challenge and move ahead with implementing the recommendations contained in it. Without a commitment for implementation by local leadership, the *Resource Guide* is only one more publication among many that takes up space on an office bookshelf. Local leadership must start at the top with the chief administrator of a school or agency. While good programs require a staff team effort, in the last analysis it is the administrator who must defend, interpret, and expedite the implementation of any new program. The following are some guidelines for administrators that have been effective in many communities starting family life and sex education programs.

Advisory committee

Forming an advisory committee representing a broad spectrum of the community is one of the best ways of assuring acceptance of a sex education program in your school or agency. Such a committee, composed of interested parents, physicians, nurses, clergy, and youth workers, would be asked to formulate broad goals for the program at various age levels and to draft general guidelines for the staff who will be implementing the program.

Publicity

The AFB/SIECUS *Resource Guide* could serve as a working document for beginning meetings of such an advisory committee. Later meetings can be devoted to special considerations that need to be made in family life and sex education programs for visually handicapped children and youth. The work of this advisory committee, which may go on for a year or more, should be well

publicized in the local newspaper, newsletters, and other means of communication used by schools and agencies. The members of the committee frequently become the strongest advocates of the program and can serve as a resource to parents' groups as well as to the wider community. The existence of an advisory committee removes the burden of responsibility for the program from any single individual.

Staff Involvement

☐ A decision to initiate a family life and sex education program requires that the administrator provide for total staff involvement, at least initially. While certain staff may be designated the primary responsibility for teaching or counseling in sex education, questions and concerns of students and parents are likely to come up in any setting, formal or informal. If all staff are familiar with the goals and objectives of a sex education program and have some sensitivity to the needs of children and youth, they can contribute to the atmosphere of warmth and trust that is essential when dealing with sex-related questions and problems. Having an informed and involved staff helps to avoid the application of the label of "sexpert" to those staff members directly involved in sex education and sex counseling. Continuing communication at staff meetings and through bulletins, and other means should help to keep the entire staff informed and involved.

Specialized training

Specialized training is both the right and responsibility of every staff member who will be involved in the sex education program. The administrator must provide both time and funds for in-service training. This might involve sending a teacher or a team of teachers to a summer workshop, securing an outside consultant to work with the staff, and providing released-time for staff in-service sessions. Administrative leadership that is directed toward facilitating, coordinating, and budgeting for teacher training assures staff that they have support and sanction to undertake a program that might be controversial.

Selection of Staff

☐ The decision concerning who will teach sex education is perhaps the most critical one facing the administrator. Pre-conceived notions about age, marital status, sex, or even academic background should not take precedence over basic personal attributes and professional skills involving a healthy attitude about one's own sexuality, empathy and sensitivity to the attitudes and values of others, and the ability to relate to students in an open and trusting way, to create an atmosphere where students can express feelings and honest opinions without fear of censure, and to safeguard the confidentiality of private and personal matters that come up in discussions.

While there is usually a factor of self-selection among teachers who choose to work in the sex education field, the administrator must know his/her staff well enough to discourage those who might be ineffective on the basis of personality, rather than academic qualifications.

Budget

☐ It would be totally unrealistic to undertake new program development in sex education without careful assessments of budgetary needs. Modest programs can begin with existing staff, materials, and budgets, but comprehensive programs in family life and sex education require considerable investment in time and money. Administrators must plan and budget for such items as in-service education, consultants, curriculum development, professional litera-

ture, student materials, and audio-visual resources. Of equal importance to the administrator is budgeting time for program development.

An idea, an innovation, a new venture in any aspect of educational programming remains an abstraction until those in authority remove barriers and set up a structure that mobilizes the energy and creativity of people into action. The guidelines above can only suggest what is required of the administrator to implement a program in sex education for visually handicapped children and youth.

Helpful Resources

Education for Sexuality: Concepts and Programs for Teachers, by John J. Burt and Linda A. Bower (1970, 508pp). W.B. Saunders Company, West Washington Square, Philadelphia, Pennsylvania 19105. Price: $9.75.

Family Life and Sex Education: Curriculum and Instruction, by Esther D. Schulz and Sally R. Williams (1969, 281pp). Harcourt Brace Jovanovich, 757 Third Avenue, New York, New York 10017. Price: $4.75, paperbound.

Growth Patterns and Sex Education: An Updated Bibliography, Pre-School to Adulthood, by the Committee on Health Guidance in Sex Education (1972, 52pp). American School Health Association, Kent, Ohio 44240. Price: $2.00.

The Individual, Sex, and Society: A SIECUS Handbook for Teachers and Counselors, edited by Carlfred B. Broderick and Jessie Bernard (1969, 406pp). Johns Hopkins Press, Baltimore, Maryland 21218. Price: $4.50, paperbound.

Sex Education in the Schools, by H. Frederick Kilander (1970, 435pp). Macmillan Company, 866 Third Avenue, New York, New York 10022. Price: $7.95.

Sex Education and Family Life for Visually Handicapped Children and Youth: A Resource Guide, edited by Irving R. Dickman. SIECUS and American Foundation for the Blind, 15 West 16th Street, New York, New York 10011. Price: $4.00.

Coming in the June Issue

The June 1974 issue of the *New Outlook* will include the following articles: "Defining and Measuring Agency Services to Improve Their Effectiveness," by Charles E. Brown; "Management by Objectives: A Tool for Management," by Joe S. Register; "A Design for a Mobile, Audio-Tactile Exhibition for Blind and Sighted School-Age Children," by Susan Byrne; and "Traditional Nursery Rhymes and Games: Language Learning Experiences for Preschool Blind Children," by Joan W. Blos.

The Planning and Implementation of a Sex Education Program for Visually Handicapped Children in a Residential Setting

RUTH V. HOLMES

Ms. Holmes is a teacher at the Illinois Braille and Sight Saving School, Jacksonville.

ABSTRACT: Careful planning is necessary to establish a constructive, comprehensive, and developmental program in sex education for visually handicapped children and youth which is designed to inform and guide, yet has enough flexibility to recognize and meet highly individualized needs, and which allows the wholesome, healthy growth of the personal sexual self in the home and in society. Considerations must be given to staffing, budget, curriculum, materials, and models, as well as to the development of understanding and good communication with the home and among all staff members directly involved or in peripheral areas. Seven years of experience with such a program in a residential setting has produced observed profitable results.

"Who am I?" "How did I get here?" "Why can't I make mom and dad see my side?" "Is control in sex possible?" These are only four of many probing, very personal questions asked during open-discussion periods at different levels in sex education classes for visually handicapped children. With questions of this nature, students of all ages indicate a need for the opportunity to know themselves, to explore and learn how life begins and how they function, to mature in their family relationships, and to develop interpersonal relationships as they interact with the portion of society in which they find themselves. According to Elder (1972), young people are faced with the responibility of making more decisions of greater importance as they are exposed to different values, attitudes, and lifestyles. Conflicting values and their attendent pressures from parents, friends, and others may seem confusing and frustrating and can sometimes lead to rebellion. It is important for young people to learn to make personal value judgements on the basis of established guidelines. They also are experimenting with growing independence.

Psychosocial development

The visually handicapped child asks the same questions and follows the same physiological growth patterns to maturity as his counterpart with normal vision. He reaches for self-identity in much the same manner but along a somewhat different route, one which is often a bit longer, slower, and which must be designed to help him meet his special individual needs in the learning process. He does not receive many of the same clues as those who gain knowledge and orientation through visual stimulation. It is more difficult, using his other senses, to establish his sexual role or to perceive his own body image and its function in his environment when social custom sometimes impedes learning in this manner.

Modern-day pressures

The changes in emphasis and personal requirements in today's society have affected common feelings and ways of thinking about sex in general. Calderone (1964) indicates that there are too many inconsistencies and "crossed wires" in

our approach to sexual behavior and to sex education. The child too often receives much of his sex education from his peer group (Calderone, 1970), many times in a manner lacking in continuity and accuracy. Six forces have been cited which have had an effect on modern sex mores and sex instruction (Kirkendall and Calderwood, 1964). They include: a) technological and scientific advances which have lessened threats and removed dangers; b) the exceedingly rapid growth of the world's population, which means that sex need no longer be regarded as existing exclusively for procreative purposes; c) cultural interchange, which has called into question the validity of certain long-standing customs and practices; d) shifting sex roles with a demand that both sexes be judged by the same standards; e) attitudes which are an outgrowth of scientific inquiry and which regard all assumptions and practices as open to question; and f) the welter of confusing and contradicting opinions which have arisen over sexual issues.

Beginning of Program

☐ In March 1965, the director of social services and the administrators of the Illinois Braille and Sight Saving School met to discuss the need for some sort of family life and sex education instruction to be included in both the school's academic and cottage-life programs. To begin, a committee was appointed at this meeting to include the superintendent, supervisors of academic programs, members of the social service staff, the school psychologist, cottage-life supervisor, and the school doctor. It was also agreed that the responsibility for this important facet of the educational growth of the child should be shared by parents, parent substitutes, counselors, social services, churches and church groups, and any other individual or group who was openly receptive and could establish good communication. Since the school is residential, this kind of instruction would readily supplement home instruction and was considered the responsibility of the school. This would thereby open an avenue for young people to learn, through free interaction with adults, about personal sexual self and their adjustment to the segment of society in which they live, as their natural physiological and emotional changes in growth and development take place.

Little information

There were no established programs or information available concerning sex education for the visually handicapped at this time, so a study of specific needs in this particular situation was initiated. Some direction was gained from a project supported by the U.S. Department of Health, Education, and Welfare, Office of Education, Division of Handicapped Children and Youth, which was being completed at the Illinois School for the Deaf under the direction of Frank Withrow. Some work being done in St. Louis by Helen Manley also proved helpful (Manley, 1964).

Program planning

At this time, the committee selected teaching staff to serve as additional members. This group, over a period of six months, searched out the general direction, worked out details, developed a tentative curriculum, examined materials, and secured supplementary models and materials deemed necessary to the success of the program. The special needs in the process of learning for the visually handicapped child were carefully considered as this work progressed. It should be noted that a program such as this requires special budgeting. The initial costs in this case were provided through a grant of Title I funds from

the U.S. Office of Education. The on-going costs have since been assimilated by the school.

Teacher Selection

☐ The committee members soon discovered that they needed to examine their own attitudes, feelings, and inhibitions. It was necessary that they become comfortable with the subject in frank, open discussion. Those selected to serve as instructors needed to examine themselves according to the following criteria: 1) knowledgeability concerning the subject; 2) sensitivity to the special needs visually handicapped children and youth exhibit; 3) training and experience with the age-level in which the assignment is made; 4) ability to relate well to the students and to communicate comfortably, calmly, and honestly at a very personal level; 5) ability to develop a rapport with the students and to encourage open discussion and inquiry; 6) ability to help the students make decisions and establish cultural and moral values without imposing personal values and codes upon them; 7) ability to communicate well with the other members of the staff; 8) flexibility and willingness to learn; and 9) possess and maintain a dignified sense of humor.

It is generally agreed that sex education takes place constantly from infancy to maturity. The question, at this point, concerned the levels at which an education program of this nature would be the most critical as the children and youth matured. Consideration was given to the courses such as physical education, health, home economics, and science which incorporate related units. Scheduling problems and staff time-limitations were also deliberated upon.

Three Levels of Instruction

☐ Three levels were tentatively selected for more structured presentation of material. The group was aware that a constant structured emphasis at every level could lead to super-saturation, since the home and other ancillary services were also involved with the program. Individual problems and questions could, therefore, be dealt with whenever they arose. The elementary level was directed toward the children in the fifth grade and those ungraded children whose level of maturity and needs indicated that they should become a part of this group. These children have just attained puberty or are just reaching it. An intermediate level was designated as the eight grade where the youth are meeting the many problems of early adolescence, searching for self-identity, establishing social relationships, and seeking to understand their physiological growth and changes. A special ungraded group was handled as a separate unit at this level. The third level included the seniors who are seeking to establish a more adult and complete self-image in the later adolescent years.

Classroom atmosphere

A time-slot separate from, yet integrated with, the academic program was a major consideration. It was agreed that there must be a relaxed, candid atmosphere, free of competition and the pressure of grades and testing, where sharing information, making inquiry, open discussion, and personal searching could be the rule. Team teachers, one male and one female, were selected for each level. Some of these instructors were part of the regular teaching staff while others were assigned to regular duties with the social service department. Curriculum then became one of the major considerations of this subcommittee.

Teaching materials

Models and materials were of paramount concern. Pamphlets, booklets, and books were ordered for screening purposes. Films available in this area were

previewed. Model sources were contacted and various models or brochures were examined. Possibilities for an appropriate text to be used as a reference for the students were considered. The staff and present committee continue to review new material and make additions as seems advisable.

Films and basic text

Nine films were selected for content and, of more importance, the completeness of the narration. They represent a progressive order of development from early animal and family beginnings through early adolescent growth and maturation, reproduction, heredity, and marriage. An additional film on marriage was added at a later date. One film, *Human Growth*, also has a counterpart in the form of a book and this was selected as a basic reference text for the students. It tells the story of human conception and growth in both sexes with comparisons. There are candid discussions about menstruation, reproduction, heredity, and glandular function (Beck, 1949). Questions and answers at the end of each chapter include many usually asked by children and youth. This book was transcribed into braille and duplicated for the blind students. The book, however, contrary to the original plans, proved to be most useful at the intermediate level and was used for review of vocabulary and facts at the senior level. As the curriculum was revised and changed somewhat over the years, it was necessary to select an additional reference text to be used at the senior level (Doloff & Resnick, 1972). This too was brailled and duplicated.

Supplementary materials

A number of supplementary booklets and books were ordered for staff reference as well as for student use. These were cataloged and kept in the school library to be used on a regular check-out basis. Later publications have been added as need dictated and budget permitted. Some of these are in braille and/or on talking book records, as well as in large print.

Selection of Models

☐ It was realized that models and relief representations could not replace the real human form, but that they could play an important part in bringing understanding to the visually handicapped child and most especially the totally blind child. They were evaluated on the basis of accuracy, size, and design (which must be distinct and uncluttered) so that as much confusion in concept as possible could be avoided. It should be noted that models have served in the courses to foster understanding in concept development and to clarify pictures in the books and movies which could not be clarified in any other way. They have also served as picture substitutes and to supplement information presented. Two portable combination torso, head, eye, and ear models, with removable parts, were ordered. These are very nearly life-size. Interchangeable male and female inserts with reproductive organs and breast plates are included. To this was added a Dickinson-Belskie set of 22 models, many of which are life-size, depicting pregnancy from fertilization through birth.

Parental and Staff Involvement

☐ Preparation of parents and staff prior to the introductory sessions of the course itself is most important to its success. Because any program which is innovative, possibly controversial, and of a very personal nature such as this one might easily lead to misunderstanding, the committee made plans to inform and/or instruct all those who would be related to or concerned with the children or the program in any way. It is imperative that good communication exist between those staff members directly connected with the program, the

home, and other staff members since all are involved in various ways in the total sex education of the students.

Letter to parents

The parents of the children at the three levels of instruction were contacted via letter by the superintendent of the school informing them of the nature of the program and of the fact that their child would be involved unless, because of personal or religious reasons, they indicated that he should not be included. This policy has been continued through the years, and it is interesting to note that no parent has ever specified that this program should not be made available to their child. A list of books and pamphlets for recommended and related reading, including prices and the address from which they can be ordered, is also sent with the letter to the parents.

Cottage-life staff

The cottage-life staff, who are a very real part of the overall program because of their close relationship with the students, have many opportunities to field questions. They are in a good position to impart information on an individual basis to meet a very special need. An in-service training program for this staff was provided in several sessions so that they would be knowledgeable about the content of the class presentations and the materials used. This provided an opportunity for them to view the models and films and to review the books and pamphlets. Training of this sort has been repeated at intervals to include new staff members.

In-service training

An in-service training workshop was planned for teachers and other staff members so that they too could be aware of the proposed curriculum and examine its materials, models, and supplementary materials. Helen Manley, recognized for her contributions to this field, served as the keynote speaker for the sessions. Short discussion periods allowed for some interaction and reaction. The schedule also afforded time in the course of the day for each participant to examine his own inhibitions and attitudes.

Communication and input from all staff members including cottage-life and medical staff is vital to the continuing success of this kind of program. A student may relate to and be able to communicate more adequately with adults other than those serving as instructors. Close contact is also maintained with the social service department and its counselors. It is important that any questions concerning human sexuality and its various aspects be answered honestly and directly when they are posed or immediately referred to someone who can. Evasive answers often lead to misunderstanding and mistrust.

Integrated classes

All of the classes are handled as co-educational units. The seniors were given a choice and chose to meet together; these students may also elect not to join the group if they so desire since the class is not compulsory. At the elementary and intermediate levels, the boys and girls are provided the opportunity for separate sessions only if the instructor becomes aware that it may afford greater freedom for discussion. This is true especially in the first sessions which deal with physical growth and development at puberty or in early adolescence. Separate sessions can also be arranged if a student or group of students requests it. A closed question box allows greater freedom to those who are somewhat inhibited in classroom discussions.

Curriculum

☐ The objectives and outlines of the curriculum offered at the three levels are

constructed as a loose guide so that they may be flexible and therefore easily modified to meet the needs of each new group. The levels are open-ended so that more or less information, as needed, may be covered at each one. In this the seventh year of our program, it can be noted that no two groups are alike. As the academic program is restructured and population shifts take place, various alterations have been made in the basic program. Emphasis is placed throughout the curriculum upon proper vocabulary; proper usage is encouraged in classroom discussions and during the examination of models. The students do not bring the same interests, knowledge, experiences, or questions to the group discussions.

Elementary level

The elementary level attempts to familiarize the child with the basic facts about reproduction in all living things, simple family structure and relationships, and social and biological heritage. New interests, family attitudes, and emotional changes are related to physical growth with the onset of puberty.

Intermediate level

At the intermediate level, an effort is made to examine family relationships and roles in greater depth; also covered are changing attitudes, the establishment of values in the face of outside influences, social relationships, and the individual's probings to find "self" and its role in relating to others in early and middle adolescence. The student at this level is many times more interested in how he came to be than in procreation itself. More time, therefore, is spent with physiological growth patterns for both female and male, including such topics as the anatomy of the reproductive organs, maturation, glandular function, some basic human heredity, and the birth process. These are related to the emotional aspects of family and social interaction. Decision-making and the establishment of values, along with natural maturation, brings about the searching out and assumption of greater responsibilities.

Senior level

The senior level reviews briefly the anatomy, continuing maturation processes, and social relationships oriented to the young adult. Human reproduction, pregnancy, childbirth, child care, and such issues as pre-marital relations, social diseases, birth control, and family planning are discussed. Social relationships and problem areas which lead toward a mature and successful adulthood, with its decisions and responsibilities, are examined.

Effects of the Program

☐ No specific research has been done to study the effects of this program on a statistical basis; however, some of its effects are apparent. For example, the students at the intermediate and senior level are asked to do a written evaluation of the course as it is concluded. From these, it has been learned that they have been highly receptive to this type of instruction and that it has been most meaningful and helpful to them. One boy, in early adolescence, said, "This is the first time I have been able to get some honest, straight answers. Thanks." These evaluations have also contained some constructive criticism which has led to changes in the order and content of the curriculum. For instance, several totally blind students noted that they would like to see the related models before reading the book and seeing the films. They also indicated that they would like additional sessions with the same models following the films and the book. This preview of the models also allows for instruction in the proper vocabulary terms as the students are examining the models.

Changes in attitude

Comparatively little parental reaction has been received, but the parents who have communicated have been pleased, complimentary, and grateful. Changes in attitude have been noted both in staff and students. For example, when the first group which had been in the elementary program reached the intermediate level, the eroticism and embarrassment had been reduced considerably. This was contrary to past group reactions to open, frank discussion. The ability to handle the vocabulary, as well as greater knowledge of facts, were very apparent. Differences at the senior level between those who had had the course at the intermediate level and those who came into the school after this time have also been noted. Arrangements were therefore made in the past two years to include referral students in a special compensatory program inserted during the interim high school years.

Flexibility

☐ Thus changes have been made to meet widely diversified needs from year to year as those needs alter. The program was designed to serve a useful purpose; it does not have all of the answers nor does it solve all of the problems, but it remains flexible and does establish guidelines. Growth, maturation, and social development are sometimes pleasant and joyful and sometimes painful experiences. Children and youth have directly or indirectly expressed a desire for open communication with and direction from adults, and they have indicated that, in general, they profit from this interaction. Sex education is always taking place, and the school can assume a very real role in this process.

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A Request for Back Issues

In order to meet the demand for replacement copies of out-of-print issues of the *New Outlook*, especially from academic libraries, readers are asked to return their copies of the following issues which they do not plan to keep: January and February, 1971; January, February, March, and May, 1973; and January and February 1974. The *New Outlook* will reimburse readers for the cost of each issue (60c), plus the amount of postage used in sending them. Thank you.

BLINDED VETERANS OF THE VIETNAM WAR

Robert Robinson

Blinded veterans of the Vietnam war were surveyed by mail as to their present life situations. The data collected is based on the responses of 176 men. Included in the report are findings relative to education, the use of leisure time, marital status, degree of dependency, and household living arrangements.

The extent of blindness varied, with 111 of the veterans needing a cane or dog guide or another person for mobility, and 64, although within the definition of blindness, seeing well enough to travel alone without a cane or dog guide.

Over half of the blinded veterans (63 percent) were 30 years old or younger. About the same percentage of each of the groups categorized by severity of blindness was 30 years of age or younger. These recently blinded men are at an age when careers are generally chosen and lifestyles determined (Table 1).

The majority of the 176 veterans has served in either the Army (51 percent) or the Marine Corps (26 percent), that is to say, in the land-based services. More than half of the Army, Marine Corps, and Air Force men are in the more severely handicapped category; the Navy men were equally distributed (Table 2).

The veterans were queried as to disabling conditions in addition to blindness. The resulting list varied in severity of conditions and extent of overlap. There were 196 incidents of impairments, ranging from amputations to loss of smell and taste. The most frequent additional impairment was facial injury and disfigurement, itemized by 60 men, loss of hearing in one ear (32 men), or in both ears (13 men), and arthritis (21 men).

About three-fourths of the veterans had not gone beyond high school at the time of entry into the service, and one-third had not completed high school. After discharge 115, or 66 percent, furthered their education. Those who attended, or were graduated from college jumped from 25 percent to 42 percent. It is commendable that the impairment of blindness, often ac-



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TABLE 1
Age Distribution at Time of Survey (N=175)

	*Cane or Dog Guide Required for Travel**		*Cane or Dog Guide Not Required for Travel**		*Total*	
	No.	*%*	*No.*	*%*	*No.*	*%*
Under 21	4	4	2	3	6	3
21–25	28	25	15	24	43	25
26–30	38	34	24	38	62	35
31–35	18	16	11	17	29	16
36–40	5	5	4	6	9	5
41–45	8	7	2	3	10	6
46–50	9	8	2	3	11	6
Over 50	1	1	4	6	5	3
Total	111	100	64	100	175	100

*Used here as an indication of the severity of blindness.

TABLE 2
Extent of Blindness by Military Branch (N=175)

	Cane or Dog Guide Required for Travel		*Cane or Dog Guide Not Required for Travel*	
	No.	*%*	*No.*	*%*
Army 89 (51%)	58	52	31	48
Marine Corps 45 (26%)	31	28	14	22
Navy 18 (10%)	9	8	9	8
Air Force 23 (13%)	13	12	23	7
Total	111	63	64	37

TABLE 3
Education Before (N=175) and After (N=176) Military Service

	Before		*After*	
	No.	*%*	*No.*	*%*
None/No further	1	.5	61	34
Elementary only	5	3	0	0
Secondary (inc.)	52	29	7	4
H.S. Diploma	71	40	23	14
Vocational	4	2	11	6
Some college	34	21	54	30
B.A. or B.S.	6	3	13	8
Advanced degree	2	1	7	4

TABLE 4
Marital Status (N=176)

	No.	*%*
Single	35	20
Married	129	73
Divorced	10	6
Separated	1	.5
Widowered	1	.5

companied by other disabilities, did not stand in the way of educational achievement (Table 3).

So far, the picture of these 176 blinded veterans of the Vietnam War is of very young men, rather well educated, frequently with handicaps in addition to blindness, and most of whom experienced land-based service.

What is the situation of these blinded veterans now? Twenty-five respondents (14 percent) stated they had been working in the past year, fourteen (six percent) that they were looking for work, others that they were not actively looking for work but were ready and willing to work. Although only five veterans in the entire sample were over 50 years of age, 76 respondents (43 percent) stated they were retired.

The marital picture, unlike the employment picture, is more like that of the veterans' age cohorts. Nearly three-fourths of the blinded veterans are married. Only seven percent divorced, separated, or widowered. A further analysis shows that half of the 20 percent of the group who were single were in the 21-25 age groups (Table 4).

All but 14 percent of the veterans live with their families (Table 5). Most who do not live with their family live alone. Over half of the veterans have families who are completely dependent on them economically, although 39 percent reported no dependency or only partial dependency of families (Table 6).

Each veteran checked all leisure time activities in which he participated. Over 90 percent of those who do not see well enough to travel without cane or dog guide listen to the radio, visit friends and relatives, and listen to TV. The only leisure time activity over 90 percent of those who see well enough to travel without cane or dog guide participate in is visiting friends or relatives. The only activities marked more frequently by those who see better than those who do not were "attend movies," "attend dances," and "participate in athletics," all activities likely to be carried out with a companion or companions. Since the questionnaire did not obtain frequency or intensity of participation, it is difficult to generalize about the use of time by these men. That the most frequently checked activities are fairly passive, often listener-type ones, prob-

TABLE 5
Living Situation (N=176)

	No.	*%*
Alone	16	9
With Family	151	86
With Friend(s)	7	4
In Group Quarters	2	1

TABLE 6
Family's Financial Dependence on the Veteran (N=176)

	No.	*%*
Total Dependence	93	53
Partial Dependence	45	25
No Dependence	24	14
No Response	14	8

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	Cane or Dog Guide Required for Travel	*Cane or Dog Guide Not Required for Travel*	*Total*
Radio	97%	78%	90%
Visit friends	93	91	92
Television	91	88	89
Restaurant dining	78	70	75
Talking books	71	31	51
Travel out of town	66	53	61
Travel locally	61	56	59
Hobbies	57	55	56
Movies	54	55	54
Dances	24	31	27
Athletics	16	33	22
Read braille	24	5	18

TABLE 7
Use of Leisure Time (N=176)

ably does not differentiate these from other Americans (Table 7).

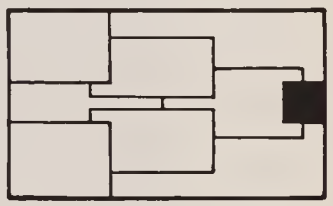
In conclusion, the survey of blinded veterans of the Vietnam War revealed a group of men who are still very young, mostly under 30 years of age, who had largely served in the Army or the Marine Corps. Two-thirds of the men undertook further schooling after they were blinded and discharged; half of those have families totally dependent upon them. Their major leisure time activities center around radio, television, and visiting friends and relatives.

Only two exceptions to the normalcy of the living situation of these men relative to that of those of their age cohorts who served in Vietnam was apparent: the severity of their visual handicap is compounded by additional impairments for many of the men, and only 14 percent had been employed over the previous year. Nearly half of these very young men stated they were "retired." In a culture where the work ethic is still very strong, this indicates that the men are out of the mainstream of life in the United States, with their potential of further contribution to society thwarted.

A total of 640 blinded veterans were surveyed. Of these, 176 responded. This means that the majority of blinded veterans (72 percent) still need to be reached.

Mr. Robinson is a research associate, specializing in social and statistical research, American Foundation for the Blind.

Editorial Notes



A certain amount of confusion seems to exist concerning the figures compiled by Louis H. Goldish as part of his study on sensory aids and services for the American Foundation for the Blind.

The first report of his study was published in the June 1972 issue of the *New Outlook for the Blind.* In that article, Mr. Goldish outlines the population of visually impaired persons who might be a *market* for sensory aids and/or services.

It should be clearly understood that all of his figures are estimates compiled from a variety of existing studies.

After pointing out that there are some 99 million Americans with some type of visual malfunction, Mr. Goldish goes on to estimate that there are 6.4 million persons with visual impairment—"trouble seeing" even with corrective lenses. Their acuity would be approximately 20/70 or worse.

Included in these 6.4 million are 1.7 million who are, in Mr. Goldish's words, "severely visually impaired." They include those we have always called "legally blind," as well as others whose visual functioning is similar to that of a "legally blind" person. This means that the primary service group for agencies for the blind and visually impaired is much larger than we have thought. Instead of only some 400,000-plus legally blind persons, there are approximately 1.7 million.

In addition, there are the 4.7 million persons whose visual function is somewhere between 20/200 and 20/70 and who represent a potential market for certain types of aids, such as magnifiers. These might be characterized as the group commonly called "the partially seeing."

Some of the people in both groups, of course, may neither want nor need sensory aids or services and some may need nothing more than a magnifier; however the market for aids, if not for services, is larger than we have thought in both the old "legally blind" and "partially seeing" categories. The market for services is perhaps not as clearly defined as that for aids. Considerable more study and analysis is required of the service needs of both groups, especially the 4.7 million in the so-called "partially seeing" group.

All of us in work for the blind and severely visually impaired need to take these facts into account in our planning for the future.

We also need to recognize once again the perennial problem of definitions of blindness, legal blindness, visual impairment, visual handicap, severe visual handicap, and so on. We sorely need an agreed-upon definition of visual impairment and blindness that takes into account function, not just medical and physiological measurements. —P.S.S.

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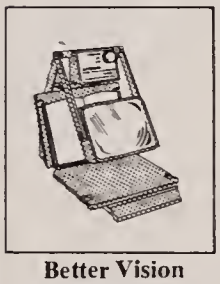
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Review



Inside Intuition: What We Know about Nonverbal Communication, by Flora Davis. New York: McGraw-Hill, 1973. xi + 245 p. $7.95.

Reviewed by Marianne May Apple

Nonverbal communication studies have surfaced in the last few years as an entertaining topic. Flora Davis, a staff writer for *Glamour* magazine, having explored sex education and sleep research, now toys with kinesics, body rhythms, and proxemics. *Inside Intuition* appeals to our interest in catchy off-beat ways of viewing interpersonal relations. The entertainment value of nonverbal communication is expressed in Davis's book and its predecessor, *Body Language* by Fast. Davis, in her preface, seems to treat it all as a game to play in one's spare time, "What I hope this book will do for readers is what writing it has done for me: it has added a number of curious pleasures to my life." She concludes her book with the following: "Perhaps the best thing to say about nonverbal communication from the layman's point of view is that learning about it is great fun." *Inside Intuition* does have the potential of evoking more serious thought because it covers most of the current research and best authorities on the subject: it is worth looking at because these experiments and studies have intriguing and disquieting implications. Professionals in the area of blindness could examine the relevancy of these studies for the blind, and conclude that the effects of blindness on human behavior may be even more complex than we ever imagined.

The implicit effects of blindness on communicational behavior are contained in the chapter devoted to eye behavior. "Establishing eye contact or failing to establish it can change the whole meaning of a situation. . . . The importance of eye behavior as a conversational traffic signal is clearly demonstrated when both parties wear dark glasses: there are many more interruptions and long pauses than there would normally be." "Where a person looks signals what he's paying attention to. . . . This might also explain why some people feel so uncomfortable in an encounter with a blind person. His eye behavior supplies few clues to his intentions."

There is substantial interest among researchers in nonverbal communication in the blind, or rather, in what blindness can tell them about nonverbal communication, which is not reflected in this book. Interestingly, R. Birdwhistell, the architect of kinesics, found the problem of nonverbal communication in the blind as complicated and seemingly unapproachable as workers with the blind do. By studying the blind to discover what they miss in interaction, he had hoped to isolate the function of visible communicative processes. His preliminary and limited observation of the interaction between blind adults and interaction between blind parents and children became so involved in the complex problems of patterned learning and in the intracacies of perception theory, that the study of communicational behavior of the blind or blinded was discontinued prematurely.

W. A. Friesen in *A Critical Review of Theories Explaining Cross-Cultural Constants in the Facial Behavior Associated with Affect,* an unpublished manuscript, reviews studies of facial expressions in congenitally blind, and suggests the further need and importance of studying certain basic questions in blind infants in order to begin to understand the origin and usage of the facial behavior associated with emotion. El-Elbesfeldt (1970) felt that typical facial patterns associated with happiness, sadness, anger, and fear were exhibited in a film of a seven-year-old girl and a five-year-old boy, both congenitally blind and deaf; Thompson (1941) also, examining sighted and congenitally blind children between the ages of seven weeks and 13½ years, found spontaneous expressions of anger, sadness, surprise, and fear. Fulcher (1942) in a posed expression study of congenitally blind and sighted children, ages 6 to 21, noticed that although the same muscles were used in each emotional facial pattern, there was less extensive use of facial muscles by the blind group. It is of significance that he reported that the amount of facial activity in each facial pattern and the adequacy of the pattern decreased with age in the blind group, while activity and adequacy increased with age in the sighted group. From his review of these studies, Friesen concludes that the same facial patterns for each emotion appear in very young infants and that the external environment (selective reinforcement of socially acceptable behavior patterns in this case) can change the frequency and extensiveness of usage of the facial muscles. This observation suggests the need for continual reinforcement of existing facial expressions in the young blind child and for training of extinguished facial expressions in the older blind child or adult.

While the congenitally blind infant may manifest certain universal facial expressions without formal training, he has limited opportunity to learn management techniques such as those described by Ekman and Friesen in *Universals & Cultural Differences in Facial Expressions of Emotion*—intensifying a felt emotion, de-intensifying a felt emotion, neutralizing a felt emotion, and masking a felt emotion with a facial expression associated with a different emotion.

Paul Ekman is here cited as anticipating the commercial exploitation of nonverbal communication. He predicts that training institutes will be set up so that businesses may groom and train employees' facial behavior.

This book and the related literature should stimulate our blind rehabilitation

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field to explore the possible impact of nonverbal communication studies on the blind person's education, rehabilitation, and social adequacy. To what extent could blindisms be extinguished through acquiring socially acceptable gestures? Would training programs such as Ekman foresees increase the communication effectiveness of blind persons and reduce distinctiveness as a blind person?

Ms. Davis's book aptly and enjoyably summons attention to an area of our work which deserves our best effort.

Ms. Apple, an orientation and mobility specialist, is co-editor of Low Vision Abstracts, *co-author of* Distance Vision and Perceptual Training, *and author of several articles on kinesics training for the blind and those with low vision.*

Education of the Visually Handicapped. Produced by the Department of Cinema-Photography, the University of Wisconsin, in cooperation with the Wisconsin Department of Public Instruction, Division for handicapped children; the State Superintendent's Advisory Committee on the Education of the Blind; and the Wisconsin School for the Visually Handicapped, 1973. Sound, color, 16mm, 29 minutes. Further information is available from the Bureau for Audio-Visual Instruction, 1327 University Avenue, Madison, Wisconsin 53701, P.O. 2093.

Reviewed by Arthur Zigouras

Many educational films are what I call 'grocery' lists. Since the subject matter is so vast, the film can only list the activities of the agency or highlight the history or run through facts. Grocery lists aren't very interesting. For example, "one can of peas, three bananas, loaf of bread," etc. But they might be—"a can of peas for my two-year-old son since he won't eat anything else at this time—three bananas to feed my ulcer —a loaf of French bread to be eaten with cheeses for our dinner party."

Education of the Visually Handicapped is such a film and it isn't a bad 'grocery' list. Although it begins with a poor one—a montage of children who have visual impairments doing different things, without an explanation of what and who, it gradually builds into an excellent showing of what the Wisconsin School for the Visually Handicapped does for its students.

Education of the Visually Handicapped is a strong visual picture, the snippets of examples, *albeit* too short at times, make the point that visually impaired children can be taught to do many things which might surprise the average viewer.

To carry the analogy of a grocery list a bit further, a list of activities is sketchy even when expanded as I did with my list above. But . . . "why does my two-year-old only eat peas?" . . . isn't answered in the list. Grocery lists are not places to explore, question, and explain. The film barely touches on the question as to whether a school for visually handicapped is best for those who have visual problems. The opposite point is almost proven when a young student, after spending a weekend at home, is in tears at the prospect of his parents leaving. However, he is seen later, happy and participating in the school activities. It would have been far better if we had seen more of him in different activities. Also, there is a line in the film in which the narrator says the darkness makes little difference to the visually impaired. There are many visual impairments extremely affected by darkness and I feel that unfortunate phrase adds to the stereotype that blindness is darkness is helplessness.

Well thought-out direction and good camera work create excellent images of the youngsters learning, playing, skiing, shopping, singing and relating to each other. The editing often cuts off these images in mid-action, leaving the scene a bit early at some times and a bit late at other times. But generally the visual is good, it's strong, very positive and, at times, for me, very moving. The graduation with all its awkwardness, its cliche speeches, and its mixture of cheerfulness and sadness was handled in a straightforward manner which evoked memories of many graduation scenes but with the added realization that they were visually handicapped men and women ready to face a completely different world.

It is an in-depth look at the school and should be of great interest to any parent, living in Wisconsin, who has a child with visual problems. However, I think the film's use and interest outside of Wisconsin is limited with the exception that other residential schools might like to see how the Wisconsin School for the Visually Handicapped functions.

Arthur Zigouras is director of public education, American Foundation for the Blind, New York City.

Me Too, by Vera and Bill Cleaver. New York: J.B. Lippincott Company, 158 p. $5.95.

Twyla, by Pamela Walker. Englewood Cliffs, New Jersey: Prentice-Hall, 125 p. $4.95.

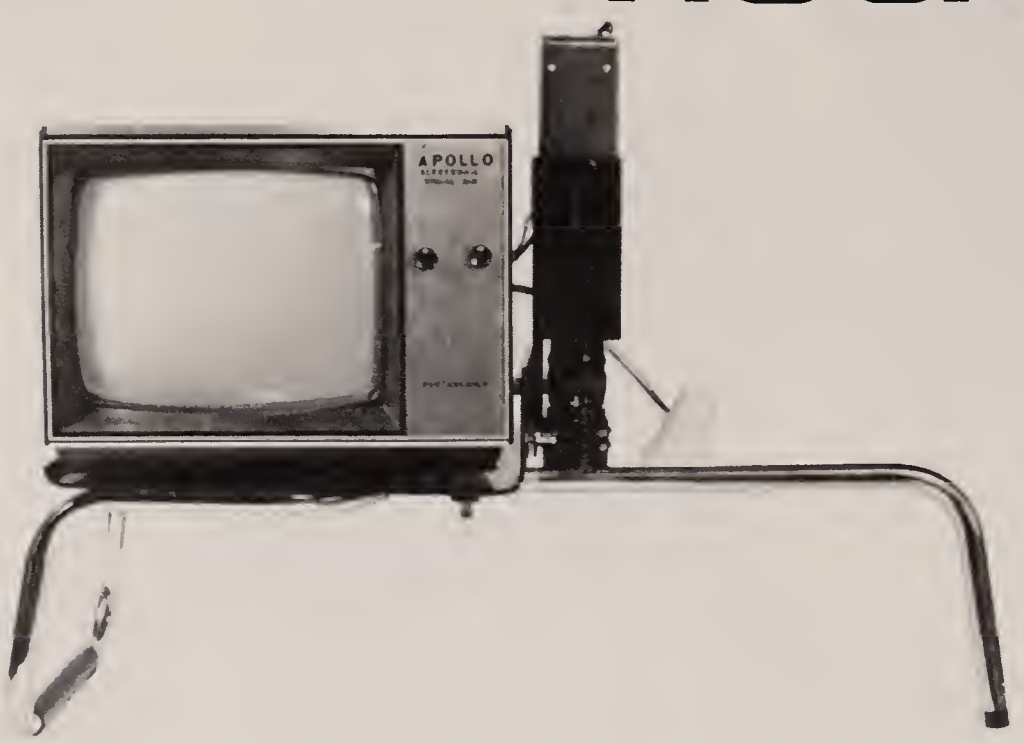
Reviewed by Betsy Byars

Both of these books about the mentally handicapped are sensitive, real and very different. In *Me Too* the reader sees the exceptional child from the outside, in *Twyla*, from the inside.

"Me Too" is the sort of warm, rich book one has come to expect from Vera and Bill Cleaver, and yet it lays bare one of the most difficult things the family of an exceptional child must face: their own complicated feelings toward the child.

The story concerns two girls, twins, 12 years old. Lydia is bright and intelligent; Lorna is an exceptional child with a mental age of about five. During the summer in which the father deserts the family, Lydia takes on the care and education of Lornie. Her dream is that she will make Lornie so much like herself that no one will be able to tell the difference. She will accomplish this where others have failed because, as she puts it, "'I'm her other half. For a while before we were born we might've had the same heart. Nobody's ever thought about that. Nobody's ever thought to ask me what I thought. I'm going to show everybody and that goes for Rucelle too, Billy Frank.'"

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Her efforts—the failures, the bursts of frustration, the unexpected success followed by more failure—all have the ring of truth, and the dialogue between the two girls is fine. Although Lydia's plan is obviously doomed from the start, this is not a depressing book. The build-up to the climax is sure and exciting, and in the end Lydia finds that although she has failed, there is in the certainty of failure a kind of release. This is so skillfully done that the reader feels released too.

Twyla by Pamela Walker is slower reading, but worth the effort, I think, for the telling picture it gives of the plight of the teen-ager with a learning difficulty. The book consists of a series of typewritten letters from Twyla, complete with mistakes of spelling and grammar, to the only person she cares about, Wally Bell, a college student.

Totally good hearted and open, Twyla wants only to be liked. She is unable to see the meanness in those around her and becomes the butt of one painful joke after another. One letter begins:

"This is the BEST news I've ever had@! Today we had nommenatens for Homecoming qw QUEEN & guess what??? I'n one of Them!! Can you beleve it Wally?"

Eight letters later comes what the reader had guessed:

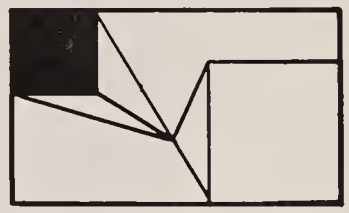
"it was just a roten joke just like delores said. so thats the way it is just like allways.

"Keller calld me to his ofis this morningg & sad-said nobody culd vote for me becus a big misstake was made, Only seeners can be quen & I ain't a 'sne-sener."

This is a tragic book, ending in Twyla's death. The cruelties she suffers from her classmates and from her teachers (who want to send her to a trade school 300 miles away) would be unbearable if it were not for the brightness and individuality of Twyla's character. The letters have a naturalness that make them totally believable, and Pamela Walker reveals unusual understanding of the high-school world.

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Letters to the Editor



To the Editors:

The paper by Mr. Mims in the November *New Outlook,* raises some interesting issues and highlights the growing proliferation of sensory aids. He misses out, however, the Mowat ultrasonic cane, the Nottingham Clear Path Indicator, the Sonic Torch, and the Dearing Light cane, which makes the picture look even worse—there may be others. The problems created by this battery of aids makes one wonder how it is that some center has not yet evolved as an advisory unit on their viability. Perhaps it is because such a center would have to develop a reputation for impartial, meaningful, and constructive assessment of devices. Both inventor/developer and agency/user would have to be satisfied with the judgments built into the reports and this may be asking the impossible. So we are left with the opinions of individuals. Inventors are of course notorious for their biassed views, but to be successful an inventor must be single-minded.

This means that inventors should not write about the devices of others except to make reference to them in the accepted way by quoting their sources of information from published papers. The reader then knows where to look for further information or corroboration of the stated facts. Mr. Mims errs in this respect, describing many devices in very brief terms and giving judgment on them without guiding his reader to study the relevant literature.

His description of certain devices is unfortunate. Words are tricky things to play with; for example, an *unbiassed* reporter of an evaluation recently described reaction as "75 percent thought it to have small to moderate effect" instead of the possible alternative "50 percent thought it to have moderate to great effect." When a writer is *biassed* he is likely to seek the most appropriate choice of words, such as the latter, to suit his approach. I think Mr. Mims may have done this in a number of places, albeit unintentionally. I also feel that when a writer is describing several sensory aids, he should do so in the context for which they are to be used—such as a mobility setting. This certainly demands additional specialist knowledge but it does not seem unreasonable to expect it to be demonstrated.

Mr. Mims is also unfamiliar with some of the devices. In particular, I would like to draw attention to the *sloshings, wheeps,* and rushing sounds supposedly made by the Ultrasonic Spectacles. I think that if he had learned more about this sensory aid in a mobility setting he would have found much more meaning in the language (or coding) of the sounds. Mr. Mims would also find that a "great deal of training" was NOT required in order to understand the use of the spectacles. This of course is like asking "How long is a piece of string?" The training time depends upon the standards to be adopted. To be realistic one should perhaps compare with training in the use of the long cane. This requires about 100-150 hours of professional teaching spread over several weeks. Some additional 40 hours are required to get an experienced

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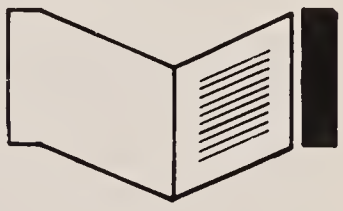
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long cane traveller to be proficient in the combined use of the cane and spectacles. If, however, the cane and the glasses are taught concurrently—which will eventually be the norm—the time scale for competent use of the combination will probably remain within the existing 100-150 hours bracket. I, personally, believe the time to reach current proficiency in mobility can now be reduced through suitable teaching techniques, but clearly the approach adopted by the teacher is going to have the greatest influence. I wonder if Mr. Mims believes that a sensory aid which is of real value to the user, can be learned in much less time than this. We do not have available the training time for the laser cane, but it would be interesting to compare with this, since the device is given positive mention.

A limitation was placed on the ultrasonic spectacles; both high ambient noise and difficult local environmental conditions were said to make the device impossible to use. Throughout the evaluation recently carried out, no situation was drawn to our attention in which the spectacles-cane combination did not aid the user, and the majority found the aid of greater value in busy unfamiliar places.

Leslie Kay, Head
Electrical Engineering Department
University of Canterbury
Christchurch, New Zealand

Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

Educating the Retarded Visually Handicapped, by Robert W. Bischoff. *The Utah Eagle* (The Utah School for the Blind, 846 Twentieth Street, Ogden, Utah 84401), Vol. 85, No. 2, November 1973, pp. 1-4, 9. The author, who is the principal of the Utah School for the Blind, discusses various developmental areas such as speech, motor, cognitive, etc. and suggests methods and guidelines for teachers of retarded blind children.

Blind Lieutenant Governor Recommends Political Career. *Dialogue* (see address above), Vol. 12, No. 4, Winter 1973, pp. 81-84. Interview with Bob Riley of Arkansas, the first blind person ever to be elected Lieutenant Governor of his state.

Independent Operator, by Ruth A. Briggs. *Performance* (The President's Committee on Employment of the Handicapped, Washington, D. C. 20210), Vol. 24, No. 7, January 1974, pp. 9-11. The story of Jimmie Trietsch, the first blind telephone operator in Alaska.

A Blind Man Looks at Colour, by John A. S. Shaw. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA, England), Vol. 57, No. 680, December 1973, pp. 315-317. The author, who has been blind for eleven years, discusses color memory and, for the congenitally blind, the possible usefulness of color-texture or color-sound associations.

Optacon Reader 'Explores' the Printed Page, by Don O. Nold. *Dialogue* (3100 Oak Park Avenue, Berwyn, Illinois 60402), Vol. 12, No. 4, Winter 1973, pp. 60-62. Description for the congenitally blind of various sizes and faces of printing types as well as numerous decorative printing devices which can be quite puzzling when discovered by an Optacon probe.

Supplementary Program for Pre-School Visually Handicapped Children; Utilization of Vision/Increased Readiness, by Wilma A. Hull and Daniel G. McCarthy. *Education of the Visually Handicapped* (Association for Education of the Visually Handicapped, Inc., 1604 Spruce Street, Philadelphia, Pennsylvania 19103), Vol. 5, No. 4, December 1973, pp. 97-104. Report on a special program offered at the Campus School at Boston College to 14 preschool children during the 1971-72 academic year. An outline of the curriculum content is given.

How I Waged War Against Blindness, by David Zwang. *Science Digest* (250 West 55th Street, New York, New York 10019), Vol. 75, No. 3, March 1974, pp. 52-56. Mr. Zwang relates his experiences in undergoing treatment for diabetic retinopathy by means of laser beam photocoagulation.

Their Readers Don't Have to Be Jewish, by B. T. Kimbrough. *Dialogue* (see address above), Vol. 12, No. 4, Winter 1973, pp. 73-74. The story of the Jewish Braille Institute of America in New York City which



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A Study of the Reliability and Validity of the Visual Efficiency Scale with Low Vision Children, by Randall Harley and John Spollen. *Education of the Visually Handicapped* (see address above), Vol. 5, No. 4, December 1973, pp. 110-114. The subjects of the study were 78 low vision children from nine residential schools.

Machine Presented Audible Programmed Instruction for the Blind, by Jerome Dunham and Howard Shelton. *Education of the Visually Handicapped* (see address above), Vol. 5, No. 4, December 1973, pp. 117-19. Report on a pilot project at the Northwest Regional Rehabilitation Center for the Blind, Seattle, Washington. The purpose of the project was to test the feasibility of using programmed texts in an academic skills training program.

Speech Development and the Blind Multi-Impaired Child, by Sally M. Rogow. *Education of the Visually Handicapped* (see address above), Vol. 5, No. 4, December 1973, pp. 105-109. A description of the role of both active and passive sensory stimulation in promoting normal speech development.

Which Services are Reasonable to Expect from a Library for the Blind? by Florence Grannis. *The Braille Monitor* (National Federation of the Blind, 2652 Shasta Road, Berkeley, California 94708), January 1974, pp. 6-12. Text of a speech presented at the National Federation of the Blind of Ohio convention in Dayton, Ohio, October 1973.

Persistence Personified. *Dialogue* (see address above), Vol. 12, No. 4, Winter 1973, pp. 90-92. An interview with Hugh Pharis of Columbus, Georgia, named "Blind Person of the Year for 1973" by the Lions Clubs of Georgia. Mr. Pharis tells of his long, ultimately successful struggle to become a public elementary school music teacher.

In Brief



■ A new book for teaching the braille system to children aged six to twelve has been prepared by Bernard Krebs, director of the Jewish Guild for the Blind, New York. *The ABC's of Braille* incorporates a new teaching approach developed by Mr. Krebs in the course of his work at the Guild. With this technique a sighted person who does not know braille is able to help a blind pupil learn the braille system. This is made possible by having the braille text on the righthand pages, while the same material appears on the left in type for the sighted. The book has been planned to foster motivation by "giving the student concrete evidence of his or her progress in terms of mastering increasingly sophisticated material, and using entertaining stories as a teaching vehicle." *The ABC's of Braille* is published by the American Printing House for the Blind, Louisville, Kentucky. A teacher's guide, also prepared by Mr. Krebs, is also available.

■ The new Braille Institute Center of the Desert recently opened house at 174 N. Palm Canyon Drive in Palm Springs, California. The Center offers a varied program of teaching, special services, and activities designed to "help the blind help themselves." Established in response to requests from blind persons in the desert area the Center is the first of its kind in Palm Springs. Staffed principally by trained volunteers, the Center highlights training in braille reading and writing, and instruction in mobility and living skills. Lectures, book reviews, and musical presentations are part of the daily activities as well as instruction in arts and crafts. A "friendly visitor" program will soon be inaugurated, under which regular contact will be maintained with blind persons in the desert area, many of whom are elderly and live alone.

The Institute's new educational facility in Los Angeles was completed and dedicated in April. The new building provides much-needed space for classes, quadrupling present space for arts and crafts students and eliminating the lengthly waiting list for this instruction. In addition the added space will permit advanced study and remove the present two-year time limit on participation.

■ The Lighthouse, New York Association for the Blind, has become a depository for the full program of talking books from the Library of Congress. This means that the Lighthouse library will be able to offer a wider selection of reading material to blind and visually handicapped people. In the past, the library had to obtain its books from the regional library for the blind in New York City, but now, as new titles are issued by Washington, they go directly to the Lighthouse.

■ The Carroll Center (formerly the Catholic Guild for All the Blind) has received a grant from Seeing Eye, Inc. to develop a New England regional training center for the Optacon, a device enabling the blind to read ordinary inkprint. The Seeing Eye grant permits an extension of these services for those blind persons who want to acquire more freedom and flexibility in reading skills. The training program will focus on individualized instruction, and enrollment is expected to come from throughout the New England area. For further information about the program write the Carroll Rehabilitation Center, 770 Centre Street, Newton, Massachusetts 02158.

■ Clovernook Home and School for the Blind, Cincinnati, Ohio, has opened a new rehabilitation facility. The William A. Procter Center, presently functioning under a grant obtained through the Department of Health, Education and Welfare, is providing intensive adjustment training to adventitiously blind men and women. More information about the Center is available from Clovernook Home and School for the Blind, 7000 Hamilton Avenue, Cincinnati, Ohio 45231.

■ The National Accreditation Council (NAC) recently announced the accreditation of four more agencies. They are the Blind Association of Western New York (Buffalo); the Lancaster County Branch of the Pennsylvania Association for the Blind (Lancaster); the New Hampshire Association for the Blind, (Concord); and the Sacramento Society for the Blind (Sacramento). The New Hampshire Association and the Sacramento Society are first to be accredited in their states. NAC now has 53 accredited members in 32 states and the District of Columbia.

■ The Volunteers of Vacaville, Inc. is a nonprofit organization, composed of inmates at the California Medical Facility, Vacaville, California. The Volunteers offer services to visually and physically handicapped persons who cannot use normal inkprint texts. The work is done by the inmates in their free time and includes a tape service, large print typing, hand-sewn bookbinding, and Perkins Brailler repair service. All tape services are provided on a loan basis to individuals; institutions and agencies with budgets for special education will be expected to supply replacement tapes to reimburse the Volunteers for each tape sent. A catalog of available tape titles as well as more information about the services provided by the Volunteers can be obtained from Volunteers of Vacaville, Inc., P.O. Box 670, Vacaville, California 95688.

■ U.S. Health, Education and Welfare secretary Caspar W. Weinberger announced the creation of the Office for the Handicapped, authorized under the Rehabilitation Act of 1973. The Office is intended to: Prepare a long-range projection for the provision of comprehensive services to the handicapped; continually analyze the operation of programs for the handicapped, and evaluate their effectiveness; encourage coordination and cooperative planning among programs serving the handicapped; develop ways to promote the

utilization of research related to the handicapped; and provide for a central clearinghouse for information and resources available to handicapped people.

■ The American Society for Hospital Personnel Administration of the American Hospital Association conducted a survey of employment of handicapped persons by health care institutions. Twenty-one chapters, representing all nine regions of the United States, participated. Of 343 responses to the questionnaire survey, 315 (92%) reported that they employed the handicapped and 28 (8%) reported negatively. A breakdown of the data indicated that 100 percent of governmental hospitals employ the handicapped, compared to 92.8 percent of nongovernmental, not-for-profit hospitals and 75 percent of the for-profit hospitals. A total of 116 different job titles were listed, ranging from secretary to surgeon and parking lot attendant to administrator. Over 2,000 handicapped persons having 50 different kinds of handicaps were employed in the 315 hospitals. As a group, the handicapped were found to meet or exceed institutions' job standards. Ninety-six returns ignored an item pertaining to problems on the job or employee relations, whereas an absence of such problems was reported in 121 returns. These 217 responses represent 73 percent of the questionnaires returned.

■ The Blind Learning Aptitude Test (BLAT) is an individual test of learning aptitude (school-oriented "intelligence") which employs 61 sheets of embossed geometric figures and designs. The BLAT set includes the test booklet (embossed by the American Printing House for the Blind), test manual, response sheets, and a shipping/storage box. For further information about the test or about ordering it (approximately $20 per set), write to T. Ernest Newland, Ph.D., 702 South Race Street, Urbana, Illinois 61801.

Correction

■ In the Appointments column of the February *New Outlook* (p. 96) Edward S. Silber is incorrectly listed as the executive director of the Chicago Lighthouse for the Blind. Mr. Silber is the president of the Lighthouse. George W. Fearn is the new executive director.

Appointments

■ National Eye Institute: **Dr. Wilford L. Nusser,** chief, scientific programs branch.

■ National Advisory Eye Council: **Dr. Charles L. Schepens; Dr. W. Morton Grant;** and **Dr. G. Richard O'Connor,** council members.

■ Blinded Veterans Association: **John Z. DeLorean; Monseigneur Richard M. McGuinness; Olin E. Teague; John D. Malamazian; Irving R. M. Panzer; Oliver J. Thomsen; William P. McCahill; Richard B. Baker; M. Robert Barnett; Irving Diener; Arville L. Ebersole; Leroy N. Emerson; Thomas S. Foley; Kathern F. Gruber; Leo Perlis; Honorable Jennings Randolph;** and **Peter J. Salmon**—national advisory committee members.

■ National Council of State Agencies for the Blind: **Robert L. Pogorelc,** president.

Awards

■ President's Committee on Employment of the Handicapped, Handicapped American of the Year: **H. Keith Russell,** chief, Armed Forces Institute of Pathology's Geographic Histopath Laboratory, Walter Reed Hospital.

Coming Events

May 7-8 National Braille Association, Regional Meeting and Workshops, El Paso, Texas.

May 12-15 General Council of Workshops for the Blind, Spring Workshop, Miami Beach.

May 12-15 International Association of Rehabilitation, Fifth Annual Conference, San Antonio.

May 19-24 National Conference on Social Welfare, Cincinnati.

May 24-25 International Association for the Prevention of Blindness, Conference on the Prevention of Impaired Vision and Blindness, Paris.

May 29-June 1 Association for the Care of Children in Hospitals, Ninth Annual Conference, Chicago.

May 30 National Accreditation Council for Agencies Serving the Blind and the Visually Handicapped, annual meeting, Greater Cincinnati Airport.

June 2-8 American Association on Mental Deficiency, 98th Annual Meeting, Toronto.

June 9-14 Special Libraries Association, Toronto.

June 16-24 World Conference of Physical Therapy, Montreal.

June 17-28 American Home Economics Association, Atlantic City, New Jersey.

June 24-27 Association for Education of the Visually Handicapped, San Francisco.

July 26-August 2 International Conference on the Education of the Deaf-Blind, Shropshire, England.

July 28-August 2 International Association of Applied Psychology, 18th International Congress, Montreal.

August 5-16 Culver-Stockton College, Workshop in Rapid Reading in Braille, Canton, Missouri.

August 6-10 Blinded Veterans Association, National Convention, Denver.

August 7-16 World Council for the Welfare of the Blind, General Assembly, Sao Paulo, Brazil.

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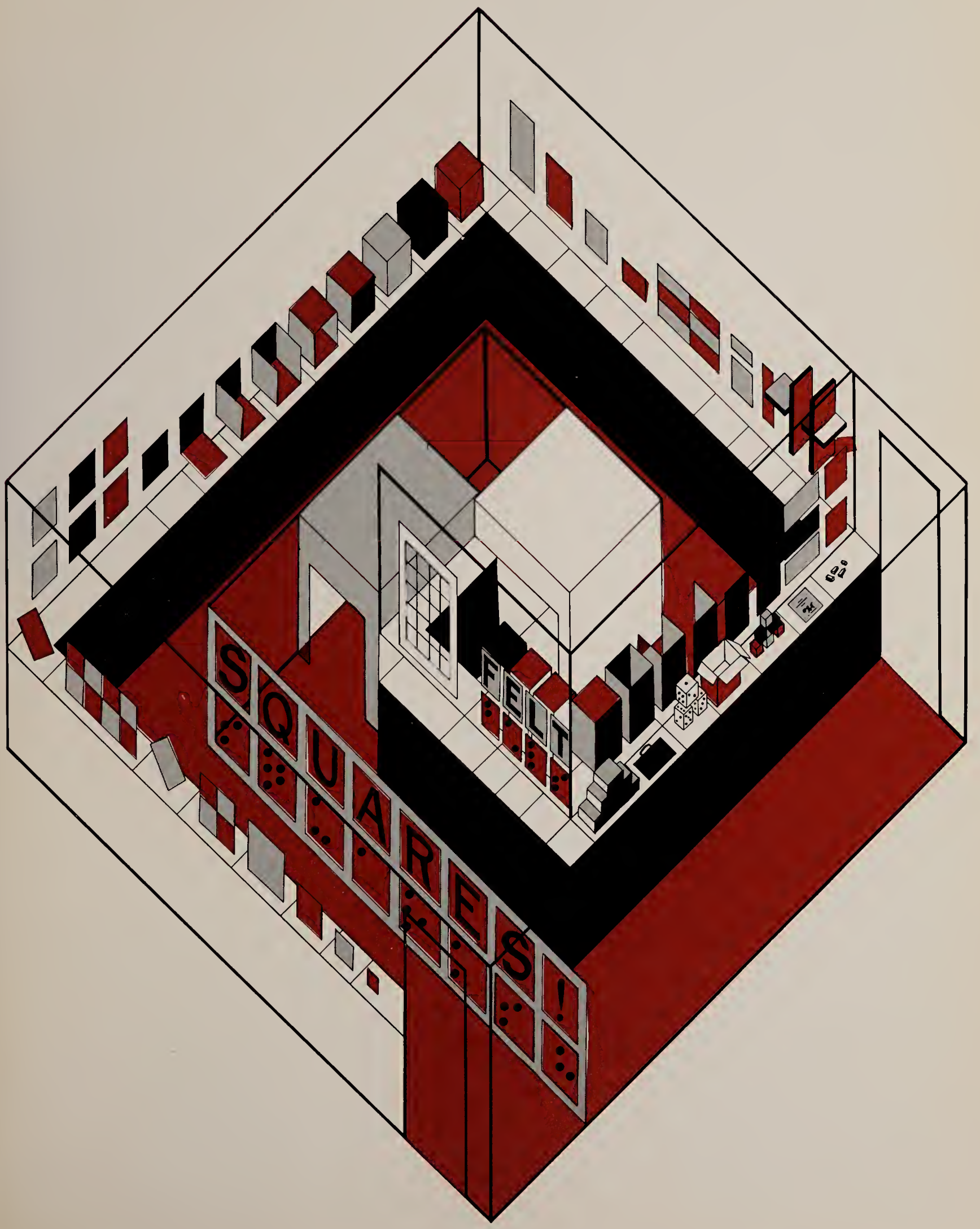
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June 1974 Volume 68 Number 6

A Design for a Mobile, Audio-Tactile Exhibition for Blind and Sighted School-Age Children

Susan Byrne

Two Articles on Agency Administration



THE NEW
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June 1974 Volume 68 Number 6

Articles

241 Defining and Measuring Agency Services to Improve Their Effectiveness
Charles E. Brown

247 Management by Objectives: A Tool for Management
Joe S. Register

252 A Design for a Mobile, Audio-Tactile Exhibition for Blind and Sighted School-Age Children
Susan Byrne

260 Sex Education as Part of an Agency's Four-Week Summer Workshop for Visually Impaired Young People
Mary Lou Karpen, M.A., and *Lee Ann Lipke, R.N.*

268 Traditional Nursery Rhymes and Games: Language Learning Experiences for Preschool Blind Children
Joan W. Blos

Departments

277 Hindsight

279 Review—*Developmental Handicaps in Babies and Young Children*

281 Letters to the Editor

283 From the Field—Laws Governing the Mandatory Reporting of Blindness by Physicians

285 Current Literature

287 In Brief

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Defining and Measuring Agency Services to Improve Their Effectiveness

CHARLES E. BROWN

Mr. Brown is executive director, Community Services for the Blind, Seattle.

ABSTRACT: Social welfare agencies are increasingly being held accountable not only for their fiscal policies but also for the effectiveness of their services. To measure the effectiveness of an agency's program, its goals must be clearly identified. Measurable units of service delivery can then be established and a reporting system instituted. The Services Identification System of the United Way of America is shown to be an effective tool in developing a meaningful system of program definition and measurement.

Owen Davison, writing in the November 1973 issue of the *New Outlook for the Blind*, effectively delineated the agency's, and therefore the administrator's, responsibility for fiscal accountability. These are days, and rightfully so, when the word "accountability" is quite prevalent in discussions of the social agency's standards of function. However, it is important that concern for accountability not be restricted to fiscal matters; agencies serving blind persons must also give serious attention to accountability as a means of measuring the effectiveness of all their service programs.

Service Accountability

☐ Governing bodies in both the voluntary and public sectors are much more carefully scrutinizing not only the granting of funds, but also the use of these funds. In many instances, preference is given to that service in which the greatest number will be served, the funding will generate the maximum amount of additional dollars, or the clearest demonstration can be made of the benefit these funds have provided in services to the persons the program is intended to serve.

The blindness system

Historically, agencies serving blind persons have been remiss in these considerations. Many times services have been mainly palliative in nature and many times, particularly in the voluntary sector, the ambience has been mainly custodial; in other words, there is a cradle-to-grave situation providing "pleasant" surroundings for both leisure time and recreational activities or programs such as crafts which result in nothing more than busy work. As Scott (1969) so effectively described in *The Making of Blind Men*, much of this has really been a part of the blindness system, reaching even into vocational rehabilitation programs in which the term "closure" in no way assures the completeness nor effectiveness of a rehabilitation plan. Scott further said, "The first step that must be taken . . . is to reexamine and critically evaluate the scientific validity of blindness workers' assumptions about blindness and the blind."

Setting Standards

☐ There are two other areas in which agencies serving blind persons are lacking in service accountability. One of these is circumstantial: there is no structured national parent membership organization to take responsibility for standard-setting devices and plans. Though the U.S. Department of Health, Education, and Welfare largely assumes this responsibility in the public sector, effectively or not, the greater lack is expressed in voluntary agencies where

there is no standard setting; no effective means of statistical measurement; little control in either the definition, method, quality, or completeness of service. The one bright hope in this morass is the spectacular efforts of the National Accreditation Council. As the efforts of this group progress, it is to be hoped that further and more explicit guidelines of service will be developed and that, in further delineation, these will be accompanied by processes to assist the individual agency with methods of service accountability, such as statistical accounting and the means of defining a high standard of accomplishment not only in each program but with equal emphasis in each unit of service within a particular program.

Unclear objectives

The other area in which agencies serving blind persons have been lacking in service accountability is in clearly defined standards of qualifications for the persons who will provide the services. This reflects a lack of clarity in the purpose of the programs or services provided for the visually impaired person who comes to the agency for service. There has been some improvement in this area over the past few years, most notably in the voluntary sector. The one great universal improvement in blindness services has been in the field of orientation and mobility training, where not only a clear and effective training program has been developed for the specialist who provides this service, but also the curriculum of training for blind persons includes measurable units of service, the expectancy of accomplishment in either units or segments of the service, and a reasonable expectancy of the amount of time to be expended in the full curriculum of training. In contrast, the field is still greatly lacking in the recognition of the need to help persons in their adjustment to the trauma of blindness through the counselling efforts of trained social caseworkers.

Entire Field Is Concerned

☐ These concerns are prevalent in the entire field of social work practice today and it is important that agencies specializing in blindness services adopt these principles and practices in all agency services. An editorial by Scott Briar in the January 1974 issue of *Social Work* stated: ". . . a social work profession that encourages innovation disciplined by consideration of accountability will be better prepared to assume leadership within the new fiscal and political constraints that will always arise to confront social programs." In the same issue, Newman and Turem (1974) state: "Accountability comprises a series of elements ranging from problem identification to goal formulation and it raises the central questions of efficiency and effectiveness in reducing social problems." "Social work needs an improved technology for defining goals in terms that entail not only measures of effectiveness but also measures of efficiency. There may have been a time when it was sufficient to state objectives in obscure terms but this is no longer the case." Systematic evaluation requires the ability to state goals in objective, measurable terms.

UWASIS

☐ There is an effective tool available to assist agencies in the development of a meaningful system of program definition and measurement. This is the United Way of America's Services Indentification System (UWASIS), published in January 1972. Its use cannot be over-stressed. The introductory guidelines state: "It is United Way of America's conviction that programs delivered to people need identification—and that such identification should be uniform

and comparable throughout the nation. UWASIS outlines: the basic social goals; the services systems which promote such goals; the specific services in such systems; the programs which perform such services; some elements of such programs; and suggested program products—in terms of types of persons served and efforts expended in their behalf." It is further noted that UWASIS is merely a beginning: "It is intended to be a keystone in the arch of comprehensively developing proper directions in need of delineating; priorities-planning; problem solving and service delivering." The important principle of UWASIS is its goal orientation, in both program and service. Though the importance of the manual will be clear in the following discussion, agencies wishing to adopt these principles and practices must purchase the manual from the publishers in order to fully apply the complete program to the individual agency situation.

A first step

From the standoint of service accountability, the prime concept of UWASIS is its emphasis on goal orientation; every possible category of community service is listed under six broad goals. Under each of the six goals, the UWASIS manual lists each of the descriptive services systems, all the suggested services, and the title of each applicable program. Because of the importance this has to the overall subject of this article, the chart is duplicated below.

Goal orientation

Realigning Services

☐ As a member agency of the United Way of King County, Community Services for the Blind (CSB) of Seattle has realigned its services into three basic programs under the UWASIS format. Program One is under Goal III (Optimal Health; Rehabilitation Services System; Outpatient Rehabilitation) and is composed of four parts: 1) orientation and mobility training; 2) training (structured classes for the development of independent skills, including sewing, handwriting, cooking, household arts, grooming, braille, swimming, coppertool, ceramics, dance, skiing, drama); 3) counselling (the social casework program of individual and group interviews); and 4) outreach (an effort to meet the needs of elderly visually impaired persons). Program Three also under UWASIS Goal III (Community Health Education), is aimed at keeping the community informed about blindness, services, and the needs of blind persons through speeches, presentations, newsletters, open house events, etc. Program Two, participating recreation (field trips, dances, hikes, swimming), is found under Goal V (Optimal Personal and Social Adjustment and Development; Social Adjustment, Social Development, and Social Usefulness Services System).

Weekly record form

The first step in utilizing the UWASIS program is this realignment of agency programs. The second step involves the creation of a system for recording the amount of staff time devoted to each program area, and identifying for each program area the quantifiable unit to be used. A weekly record form with spaces for each day of the week and with columns for each of the program areas was devised. The units for each area are each lesson for mobility, each class for training, and either an individual or a group session for counselling. Since much of the outreach program has to date been concerned with either nursing homes or retirement facilities, the quantifiable unit was designated as a visitation. For training and for participating recreation, the unit was defined as a session. The units for Program Three, community health education, were less tangible in

UWASIS CHART

GOAL I. ADEQUATE INCOME AND ECONOMIC OPPORTUNITY

EMPLOYMENT SERVICES SYSTEM
Manpower Development and Training Services

Programs
Job Finding
Pre-Job Guidance
Job Training
Job Placement and Referral

Special Employment Services for the Socially, Economically, and Politically Disadvantaged

Programs
Employment Assistance to the Socially and Economically Disadvantaged
Bonding of Ex-Offenders
Exemplary Rehabilitation Certification Assistance
Certification for Employment of Non-Citizens

Special Employment Services for the Aging and the Physically and Mentally Handicapped

Programs
Sheltered Remunerative Employment
Homebound Employment

INCOME MAINTENANCE SERVICES SYSTEM
Social Insurance Services

Programs
Health Insurance for the Aged—Hospital Insurance (Medicare)
Unemployment Insurance
Workmen's Compensation
Social Insurance for Railroad Workers
Special Benefits for Disabled Coal Miners ("Black Lung" Benefits)
Disability Insurance
Retirement Insurance
Survivors Insurance

Financial Aid Services

Programs
Aid to the Blind
Aid to the Permanently and Totally Disabled
Aid to Families with Dependent Children
Old Age Assistance
Emergency Welfare Assistance
General Assistance
Special Benefits for Persons Aged 72 and Over

CONSUMER PROTECTION AND SAFETY SERVICES SYSTEM

Consumer Education Services . . .
Services for the Quality Control of Consumer Goods and Products . . .
Protection Against Unfair Trade Practices Services . . .
Consumer Safety Standards Services . . .
Consumer Recourse Services . . .

GOAL II. OPTIMAL ENVIRONMENTAL CONDITIONS AND PROVISION OF BASIC MATERIAL NEEDS

FOOD AND NUTRITION SERVICES SYSTEM
Governmental Food Subvention and Assistance Services

Programs
Commodity Distribution
Food Stamps
Special Non-School Food Assistance for Children
School Breakfasts
National School Lunch Program
Special Milk Program for Children

Voluntary Food Services

Programs
General Food Service
Home Meals or Mobile Meals

CLOTHING AND APPAREL SERVICES SYSTEM
Subsidized or Free Apparel Services

Programs
Collection and Pickup of Donated Apparel
Apparel Distribution Centers

HOUSING SERVICES SYSTEM
Urban Renewal and Redevelopment Services

Programs
Real Estate Acquisition, Renewal and Redevelopment
Relocation and Allocation Under Renewal

Housing Subvention Services

Programs
Low to Moderate Income Housing Loans
Mortgage and Loan Insurance
Rent Supplements
Interest Subsidy
Public Housing
Housing Assistance for Special Groups

General Housing Search and Location Services . . .

TRANSPORTATION SERVICES SYSTEM
Earth, Water, and Air Transportation Development and Maintenance Services

Development and Maintenance of Earth Surface Transportation
Development and Maintenance of Water Surface Transportation
Development and Maintenance of Air Transportation
Special Transportation Needs of Selected Groups

Transportation (Traffic) Control and Safety Services . . .

PUBLIC PROTECTION, JUSTICE, AND SAFETY SERVICES SYSTEM
Administration of Justice Services . . .
Crime and Delinquency Prevention Services . . .
Fire Protection Services . . .
Public Disaster Services . . .

ENVIRONMENTAL PROTECTION AND ENRICHMENT SERVICES SYSTEM
Environmental Protection Services
Environmental Enrichment Services . . .

GOAL III. OPTIMAL HEALTH

HEALTH (PHYSICAL) MAINTENANCE AND CARE SERVICES SYSTEM
Community Health Maintenance Services

Programs
Prevention and Control of Communicable Diseases
Public Health Nursing
Environmental Sanitation
Occupational Health Concerns
Community Health Education
Blood Bank
Community Clinics
Home Health Care
Medical Supplies and Equipment Provision

Medical Care Services

Programs
Inpatient Medical Care
Outpatient Medical Care
Emergency Medical Care

MENTAL HEALTH MAINTENANCE AND CARE SERVICES SYSTEM
Psychiatric Treatment Services

Programs
Inpatient Psychiatric Care
Outpatient Psychiatric Care
Emergency Psychiatric Care
Residential Treatment of the Emotionally Disturbed
Transitional Care

Mental Health Preservation and Maintenance Services

Programs
Alcoholism Prevention and Treatment
Drug Abuse and Narcotics Addiction Prevention and Treatment

MENTAL RETARDATION SERVICES SYSTEM
Services for the Habilitation of the Mentally Retarded

Programs
Special Day Care of the Mentally Retarded

Residential Care Services for the Mentally Retarded

Programs
Short-Term Residential Care of the Mentally Retarded
Long-Term Custodial Care of the Mentally Retarded

REHABILITATION SERVICES SYSTEM
Therapeutic Services for the Handicapped

Programs
Inpatient Rehabilitation
Outpatient Rehabilitation
- Orientation and Mobility
- Training
- Counselling
- Groups or Specific Goal-Oriented Groups

GOAL IV. ADEQUATE KNOWLEDGE AND SKILLS

FORMAL EDUCATIONAL SERVICES SYSTEM
Preschool Services

Programs
Early School Admissions

Elementary and Secondary School Services

Programs
Kindergarten
Primary or Elementary School Education
Secondary or High School Education

Higher Educational Services

Programs
Community Colleges or Junior Colleges Education
Undergraduate College Education
Universities, Professional Schools and Technological Institutes Education

INFORMAL AND SUPPLEMENTARY EDUCATIONAL SERVICES SYSTEM
Informal Educational Services for Self-Instruction

Programs
Libraries
Occupationally or Professionally Oriented Groups or Specific Goal-Oriented Groups and Associations

Supplementary Educational Services

Programs
Adult Education

Special Educational Services for the Gifted and the Disadvantaged

Programs
Special Educational Opportunities for Gifted Children
Special Educational Opportunities for the Disadvantaged

GOAL V. OPTIMAL PERSONAL AND SOCIAL ADJUSTMENT AND DEVELOPMENT

INDIVIDUAL AND FAMILY LIFE SERVICES SYSTEM
Family Preservation and Strengthening Services

Programs
Counseling
Homemaker
Family Growth Control and Planning

Family Substitute Services

Programs
Adoption
Day Care
Foster Home Care
Group Home
Institutional Care

Crisis Intervention and Protective Services

Programs
Suicide Prevention and Protection Against Physical Self-Harm
Protection From Neglect, Abuse and Exploitation

Supportive Services to Individuals and Families

Programs
Retirement Preparation
Friendly Visiting
Assistance to Travelers, Newcomers, Migrants, Immigrants and Mobile Families
Emergency Assistance

SOCIAL ADJUSTMENT, SOCIAL DEVELOPMENT AND SOCIAL USEFULNESS SERVICES SYSTEM
Recreational Services

Programs
Participatory Recreation
Spectator or Non-Participatory Recreation

Social Group Services

Programs
Social Adjustment
Social Development
Troop Type

Intergroup Relations Services

Programs
Special or Single Interest Group Promotion
Multi-Interest Community Relations

CULTURAL AND SPIRITUAL ENRICHMENT AND DEVELOPMENT SERVICES SYSTEM
Arts and Humanities Development and Subvention Services . . .
Artistic and Cultural Opportunities Services . . .
Religious or Spiritual Services . . .

GOAL VI. ADEQUATELY ORGANIZED SOCIAL INSTRUMENTALITIES

MOBILIZATION OF PEOPLE SERVICES SYSTEM
Community Organization Services

Programs
Neighborhood Development
Community Planning and Development

Political Organizations Services . . .
Volunteer Services

Programs
Volunteer Recruitment and Training
Volunteer Placement and Supervision

RESOURCE DEVELOPMENT SERVICES SYSTEM
Human Service Programs Funding Services

Programs
Governmental Fund Raising or Public Sector Programs Funding
Voluntary Fund Raising
Acquisition of Charitable Foundations Support
Acquisition of Governmental Grants and Contracts

Economic Development Services

Programs
Promotion of Tourism, Businesses and Industries
Small Business Development

ADMINISTRATION AND MANAGEMENT CAPABILITY SERVICES SYSTEM
Administration Services

Programs
Personnel Recruitment and Training
Budgeting, Allocations and Agency Relations
Purchasing
Plant and Facilities Operation and Maintenance
Planning and Evaluation

Communication and Public Information Services . . .
Research Services

Programs
Demonstration or Pilot Projects
Causational Research
Social Simulations
Social Forecasting

EQUAL OPPORTUNITY SERVICES SYSTEM
Equal Opportunity Promotion Services

Programs
Civil Rights Promotion (Legally Mandated)
Equal Employment Opportunity Promotion
Promotion of Fair Housing Policies and Practices

Equal Opportunity Recourse Services . . .

definition, but were designated as each occurrence of a speech, newsletter, mass media feature, etc. Two other columnar designations on the weekly record form are administrative and support services (supervisory conferences, staff meetings, conferences and seminars, and other "housekeeping" duties), and time off (sick leave, vacations, and leave without pay). The final column for any one day then adds up to the total of designated hours for a work day.

Assigning cost units

The cost unit designated for each program are hours of training for mobility, number of sessions (minimum of 30 minutes in length) for training, length of

time (15 to 30 minutes count as half a unit, 30 minutes to one hour as one unit) for counselling interviews and outreach visitations, persons served for participating recreation, and time for administrative and support services and for time off. The cost unit for community health education was the total time spent on this program, since no other quantifiable unit seemed appropriate. The recording of time spent for each program on each day is also divided between direct services (preparation, travel, or conferences with physicians, teachers, or family members). Because of the large number of volunteers involved in all aspects of the CSB program, sometimes with complete program responsibility, a similar record form was developed for them to record the amount of time (and therefore of service) that they devoted to each area of the program.

Outside experts

It is important to mention here that these standards of program measurement could not have been developed in the agency without the services of a skilled certified public accountant. As agencies serving blind persons develop more sophistication in service accountability, it must be recognized that expertise and skill in such very important supportive services must be sought from disciplines outside those of the professional specialties, such as rehabilitation or social work, that traditionally staff these services.

Measuring Results

☐ Still the great lack in service accountability is the lack of criteria for the effective measurement of results. All the literature points to this problem and this paper does not propose to offer an adequate solution. It cannot be denied, however, that in a responsible professional group the answers must be found. One interim proposal would be a diagnostic plan at intake on each case, with estimation of the time involved. This would need to be followed by periodic reviews to measure progress against the time involved. Some statistical reporting procedures require the staff member to evaluate monthly the progress of each case or client. Though this is an attempt to estimate the progress toward results desired, it is subjective and the scientific base is possibly open to question.

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Management by Objectives: A Tool for Management

ABSTRACT: This approach to management involves specific techniques for identifying goals and establishing a process for achieving them. The training of staff who are to work within a management by objectives scheme includes the development of a training manual and sessions to teach the necessary skills. Examples of a statement of objectives and of a support plan are included.

JOE S. REGISTER

Mr. Register is planning and staff development specialist, Staff Services, Rehabilitation Services for the Blind, Arkansas State Department of Social and Rehabilitative Services, Little Rock.

During the past several years, rehabilitation agencies and other human services organizations have placed more and more emphasis on accountability. Now the questions concerning accountability are more probing than ever and are being asked at all levels of state and federal government. The questions push beyond the traditional ones of *what* are the services and *why* are they being provided to a rather new question, *how* are these services provided. In an attempt to answer the "how" question, rehabilitation agencies must find management systems that will allow their processes to become visible. One tool that appears most promising for doing this is management by objectives (MBO).

What Is MBO?

☐ What is management by objectives? MBO is a coined phrase found in management literature and is also sometimes called achievement-oriented management, or management by results. But the principles and techniques are the same. It is a system which stresses accomplishment; that is, predetermining where you want to go and planning a process or activity that will get you there. In other words, it formalizes the results wanted and a plan for achieving them. Thus, a manager is able to manage people and resources toward the accomplishment of objectives; perhaps a more accurate phrase would be "management toward objectives."

Characteristics

A review of management literature reflects the following general characteristics of a good MBO system:

1. Goals are set at the top of an organization and reflect the major purposes for the organization's existence; these become the boundaries within which objectives are set. The organization's goal or goals can only be measured through the accomplishment of specific objectives.

2. Objectives are set in a face-to-face session between each management level from top to bottom and for each role in the various levels. This guarantees appropriate internal linkages in keeping with the specified major goal or goals of the organization.

3. A management information system should be designed during the objective-setting session to pull information from the planned processes, or activities, to allow a manager to monitor the progress toward accomplishment of the negotiated objectives.

4. Frequent review periods, approximately every 90 days, should be established for reviewing progress toward meeting objectives. Again, this should be done in a face-to-face meeting between each management level in the organization and should be done from the bottom up. This review will concern performance in meeting the plan for objectives as well as newly developed factors which would influence the continuation of present objectives and would determine whether renegotiation of new or additional objectives should be done. Such review would insure flexibility in the system for change when necessary.

Conversion to MBO

☐ The first step in any major undertaking such as converting to a management by objectives system is commitment. About a year and a half ago, the commissioner of the Arkansas Rehabilitation Services made a strong commitment to converting to MBO and requested a group of six staff persons to plan a training package for the first stage of this program. This group spent about four to six weeks surveying management literature concerning the concepts and techniques in a management by objectives system. Each member of the team then developed one or more essays on the pertinent concept and technique areas. These essays were reviewed and criticized by the entire team and rewritten (when necessary) until the contents were felt to be clear and appropriate for inclusion in a training manual. Then, a glossary of the most important terms was developed. The following essays were used in the training manual: What is Management Objectives?; Organizations—Their Environment and Their Evaluation Potential (3 parts); The Production Process in Human Service Organization; Effectiveness Areas; Objectives; Overview of the Rehabilitation Process, Production and Management Role; An Overview—Goals and Objectives as a Hierarchical Concept; Goals and Objectives as a Hierarchal Concept; Objectives as a Statement of Outputs; Objectives as Activity Determinants; Setting Goals and Objectives and Determining Activities; Evaluating Specific Rehabilitation Roles; Management Information Systems—An Overview (7 parts); and Glossary of Terms.

Training manual

Each essay contained a set of questions to be answered prior to training; copies of the manual were distributed to selected participants allowing them sufficient time for study and for answering the questions. Each participant received four days of training—two two-day sessions, with approximately one week between sessions. The first two days were used for clarifying the concepts and techniques in the manual. This was done in a large group setting with about 35 participants. Then, during the second two-day session, the large group broke into small groups of five to nine members for the development of skills through guided practice in writing objectives for their respective roles. Also during this time, the techniques involved in writing support plans, which indicate the step-by-step activities that will insure the achievement of the objectives, were introduced to the participants.

Training sessions

As illustrated in the list of essay topics, a number of essays were developed concerning organizational theory and its application to the specific rehabilitation organization. One of the important facts discovered in reviewing the literature was that a great number of MBO systems fail and that the primary reason seems to be that not enough time was spent during training discussing the

Organizational theory

organizational structure, the production model, and related concepts. These basic concepts must be understood prior to introducing the mechanics of writing objectives and support plans.

Statement of Objectives

☐ After the basic concepts of organization were thoroughly discussed, the mechanics of writing the statement of objectives were introduced. The format used for the statement contained three elements: conditions, objectives (sometimes called the target), and criteria (measurement). Obviously, it is necessary to decide what is to be achieved (objective or target) prior to determining what you must have to accomplish the objective (conditions) and before you can decide how to measure the achievement (criteria).

Characteristics

A good objective (or target) is result-centered, time-bound, specific, realistic, attainable, measurable, etc. For example, a statement of objective might read, "An article concerning the concepts and techniques used in training the personnel of the Arkansas Rehabilitation Services in management by objectives will have been completed for publication by December 1, 1973." These characteristics assist a manager in achieving exactness in writing an objective. If any words are used in the statement that might create misunderstanding or difficulty in measurement, it is best to define these words more carefully.

Conditions

The "conditions" element of the statement usually appears at the beginning of the statement and is simply a list of the resources needed for completing the objective. These resources are of such a nature that they can be guaranteed by the organization. For example conditions might be phrased in this manner: "Given: 1) adequate funds, 2) clerical support, 3) no conflicting assignments, 4) supervisory support, etc." The conditions are negotiated during objective-setting sessions in face-to-face meetings between supervisor and subordinate. The conditions must be as specific and realistic as needed to guarantee the accomplishment of the objective. Resources ordinarily provided to all staff, such as a place to work and equipment, including the telephone, desk, etc., do not need to be listed. However, if the items needed for completing the objective are usually competed for among several staff, it is best to be very specific in listing the items needed.

Criteria

The measurement of the objective should be realistic and should tell how to know when the objective has been completed. Since all measuring devices are rather arbitrary and subjectively based, it becomes important not to avoid being subjective in measuring but to be sure to set forth the factors around which a subjective opinion will be rendered. One approach for measuring the objective mentioned above as an example would simply be (criterion phrase): "Completion will be determined by the existence of the completed article ready for submission to the publisher." If the objective had contained modifiers, such as "an appropriate article," it would become necessary first to define "appropriate" and then find a measuring device that would illustrate that an "appropriate" article had been completed.

Sample Statement

☐ The following is an illustration of the format and contents of the complete objective statement which ties together the three elements previously discussed: "Given large blocks of uninterrupted time, assistance from other MBO team members in criticizing this article, and clerical support in typing and proofread-

ing, etc. (conditions), an article concerning the concepts and techniques used in training the personnel of the Arkansas Rehabilitation Services in MBO will have been completed for publishing by December 1, 1973 (objective). Completion will be determined by the existence of the completed article ready for submission to the publisher (criterion)." This is not a good example for illustrating the importance of negotiating an objective for a specific role in an organization, since it merely shows the mechanics of putting together the objective statement.

Support Plan

☐ The objective statement alone is an incomplete management tool. Although it very clearly states the *result* wanted, the resources needed to reach it, and how to tell when it has been completed, it does not in any way indicate what must be done to insure the accomplishment of the objective. Therefore, it becomes imperative to write a support plan which indicates the step-by-step activities needed to reach the objective. Each activity in the support plan should contain enough information to show how it is to be done, why it is to be done, when it is to be done, and the result expected from it. All major decisions should be exposed in the activities. Just as the objective belongs to the role for which it is written, so does the support plan. Therefore, one of the techniques used in writing a support plan is to include enough information in the description of each activity that any person possessing the skills required in the role or position description, could use the plan to accomplish the objective. The support plan provides a high degree of predictability and movement and can be used for monitoring. The support plan of activities to be done assists a manager in monitoring the progress of subordinates toward the accomplishment of the objective; in making decisions about resources and personnel commitment; and in judging the performance of the individual toward reaching the agreed upon objectives. Consequently, support plan writing requires the development of a high degree of skill. For example, the following are a few of the steps that might have been involved in designing a support plan for the previously mentioned objective statement.

Sample plan

"Support Plan: 1) Meet with the other MBO team members and explain the need for writing an article concerning MBO in a human service organization and ask for their ideas on format and content and for time for them to criticize the article; 2) Review the MBO training manual to refresh memory on pertinent concepts and techniques prior to beginning the article; 3) Write a general outline of content indicating specific areas of concepts and techniques to be included; 4) Present outline to other team members for further suggestions on format and contents, and revise outline if needed; 5) Prior to writing each section as outlined, re-read, in full, the essays in the training manual to assure completeness of the concept or techniques discussed. . . ." Although this example is incomplete, it serves to illustrate the basic concepts and techniques of plan writing. Even though the "when to do" information in each activity in this example is primarily aimed at forcing a logical sequence of activities, it could have been expanded to include specific times for completion of specific activities. This would have been especially useful if the objective involved a short-range project. Planning is very exhausting and time-consuming in the begin-

ning, but will save an enormous amount of time in the long run. Too, it will reduce wasted time by eliminating the random selection of activities, a common occurrence if detailed preplanning is not done.

Job Factoring

☐ There are two broad areas in which objectives will be written for each role or position in an organization. One is in the area of special program or project emphasis. This kind of objective begins at the top of the organization and is linked downward throughout the hierarchy to provide for high visibility in emphasizing a particular project or program. The second broad area is what might be termed "role" or "position maintenance" objectives. This type of objective is specified through the major outputs needed from the specific role and is concerned with the major function that justifies the existence of the role in the organization. Since the organization had already been functioning for many years prior to adopting an MBO system, it became necessary to find a technique that could be used for determining the kinds of outputs or functions that should be formalized into objectives. Thus, as a part of the training program, each participant was taught to factor his job, that is, to list 20 to 30 activities done in a typical week, to ask why each activity was done, and to find if any of the activities had a common purpose. Usually several activities tended to cluster around a common purpose and this became a possible area of output. These output areas were then used for developing objectives for the role. Usually, there were six to ten such areas which could possibly be formalized into objectives and used to write the completed objective statements and support plans.

Conclusion

☐ One of the risks involved in writing this kind of article is a tendency to oversimplify because there is an enormous amount of material that could be covered. Although the concepts and techniques are not difficult, the training effort in terms of manpower and resource commitment is tremendous. By the same token, the benefits to the organization are also tremendous in that it forces the direction of the total organization toward stated purposes or goals by predetermining specific objectives and plans for achieving them. It creates a high degree of visibility of processes and, therefore, represents an extremely useful tool for managing.

A Reminder

Readers are reminded that the *New Outlook for the Blind* is not published during the months of July and August. Publication will be resumed with the September 1974 issue.

A Design for a Mobile, Audio-Tactile Exhibition for Blind and Sighted School-Age Children

SUSAN BYRNE

Ms. Byrne, a professional designer, is a graduate of Parson's School of Design, New York City.

ABSTRACT: The exhibition consists of four modules, each of the first three devoted to a simple geometrical shape (square, circle, triangle); the fourth illustrates the combination of these forms in everyday objects. The design includes the use of color, size texture, and various spatial concepts. In each room, a progression from two-dimensional to three-dimensional forms and from small to large is followed, with a railing with braille and print instructions to guide the children. The exhibit is to be used as a playing-learning environment for children six to 11 years of age in which they are encouraged to explore independently and to communicate their feelings and impressions to their fellow students.

We live in a visual, "look but don't touch" world, and the blind child must live and compete in this same world. The problems of development for both the blind and the sighted child are the same, but the opportunities to aid the blind child in his development often differ. It cannot be assumed that the blind child has the knowledge of facts and experiences which those with sight acquire through incidental learning. Verbal descriptions must be reinforced with concrete experiences which are meaningful to the blind child. As Lowenfeld (1971) expresses it, "He must be given opportunities for direct observation and he must be encouraged to explore where other children just look and learn" (p. 222). The blind child relies on his acquisition of knowledge exclusively through the senses of touch and hearing and he should be given opportunities for observations that will lend reality value to his environment (Lowenfeld, 1971, p. 173).

Providing New Experiences

☐ There are chiefly two ways in which additional opportunities can be provided: 1) the pupils can be taken to the experiences; or 2) the experiences can be brought to them. I have chosen to explore the possibiities of the second approach and have, accordingly, designed and built a scale model of a mobile, audio-tactile exhibition which can be taken to areas where blind children are attending public schools or to residential schools for the blind. The exhibition, for use with elementary school children—ages six to 11 years—is one within which the children would be encouraged to move, explore, and play—in short, to experience the environment in all its facets (Figure 1).

Geometrical forms

The design of the exhibit is based on geometrical forms and its overt aim is to give the children a better understanding of these basic shapes and structures, both in their pure or abstract form and as the building blocks of the familiar objects of everyday life. They would be able to explore these shapes in various sizes, proportions, weights, and textures; some could be experienced manually, others by crawling into, on top of, and around them.

Integrated Use

☐ The exhibition is meant not only for blind children, but for sighted children as well. This was done to provide an opportunity for the children to do

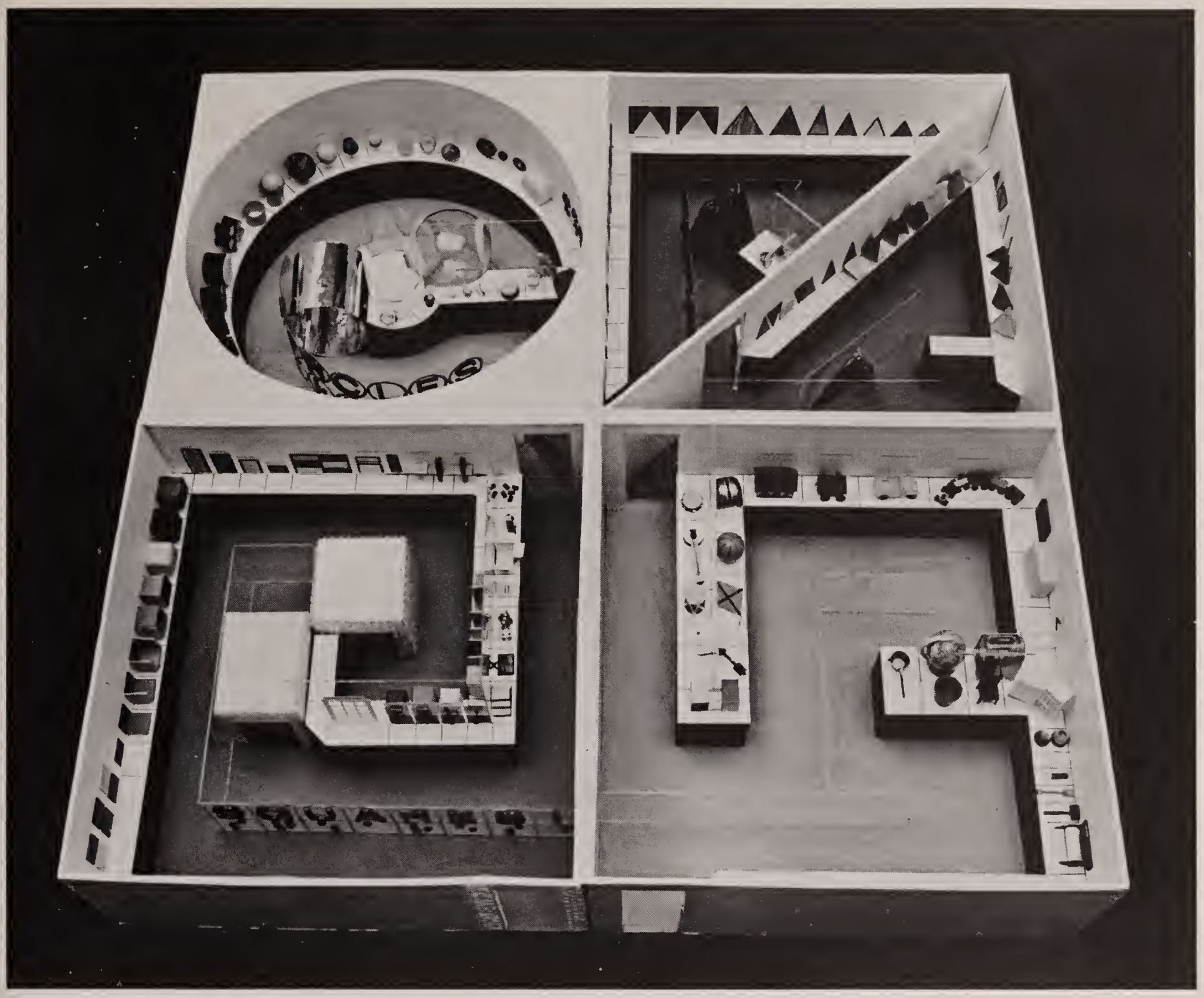


Figure 1
The Four Modules

something together and to share in a common experience. More importantly, however, my intention was to create an environment in which the participation of blind and sighted children together at the same time would be mutually beneficial. For example, the children would be encouraged to use their own voices for the audio part of the exhibit, the blind children giving verbal explanations of what they are feeling and the sighted children explaining what they see (including the colors of things). Both would also be encouraged to use their voices to discover the different effects produced by surface and floor coverings; large and small, open and closed spaces; etc.

Four modules

As a new and unfamiliar environment, the blind child can make gains in independence by being introduced to it and learning to explore its many facets. On the other hand, the exhibition is designed to guide the child in a logical sequence of steps to prevent meaningless, random exploration and unwelcome surprises (Figure 2). There are four modules in the design, each presenting a progression of forms and shapes. The first, a square room, contains squares, rectangles, and cubes (Figure 3). The second, a round room, contains circles, spheres, and cylinders (Figure 4). The third, formed of two triangels, contains triangular shapes, tetrahedrons, and pyramids (Figure 5). The fourth is a room of familiar objects in which are found various combinations of square, round, and triangular forms (Figure 6) so that the child may better relate the learning experience to his environment.

Guide rail with braille

A railing with braille and print instructions and explanations is provided to guide the individual through the exhibition. The same progression of shapes is found in each room—the simple form in different sizes and textures, three-dimensional forms, very large forms, and useful objects. For example, as the child enters the first module, the square room, he will find a variety of flat squares. Next he will discover how squares can be combined to form cubes. Examples of hollow and solid cubes in different sizes, weights, and textures are available for comparison. Much larger cubes, allowing the child to crawl inside, adds an element of play and gives him a better understanding of the structure of cubes. It also allows him to leave the guide rail temporarily and to do a little independent exploration. Also discovered will be the different quality that sounds have in carpeted, steel, wooden, and foam-lined structures. Finally, there are objects illustrating the usefulness of squares and cubes—box, dice, chair, etc. To help the child further distinguish the four rooms, each has a different and distinctive floor covering. In each of the first three rooms, the child can be helped to discover that the room itself has four corners, no corners, or three corners. To help the child more fully appreciate the four distinctive environments of the exhibition, he is also encouraged to go through barefooted—if he wishes to do so. In the last room, the child can discover that a roller skate is made up of a flat rectangle, two cylinders (the axles), and four round wheels, or that a house is a cube and the roof two rectangles and two triangles.

Ordinary objects

It is hoped that this design will lead to the building of learning-playing environments in which children can explore some aspect of the real world through the use of all their senses.

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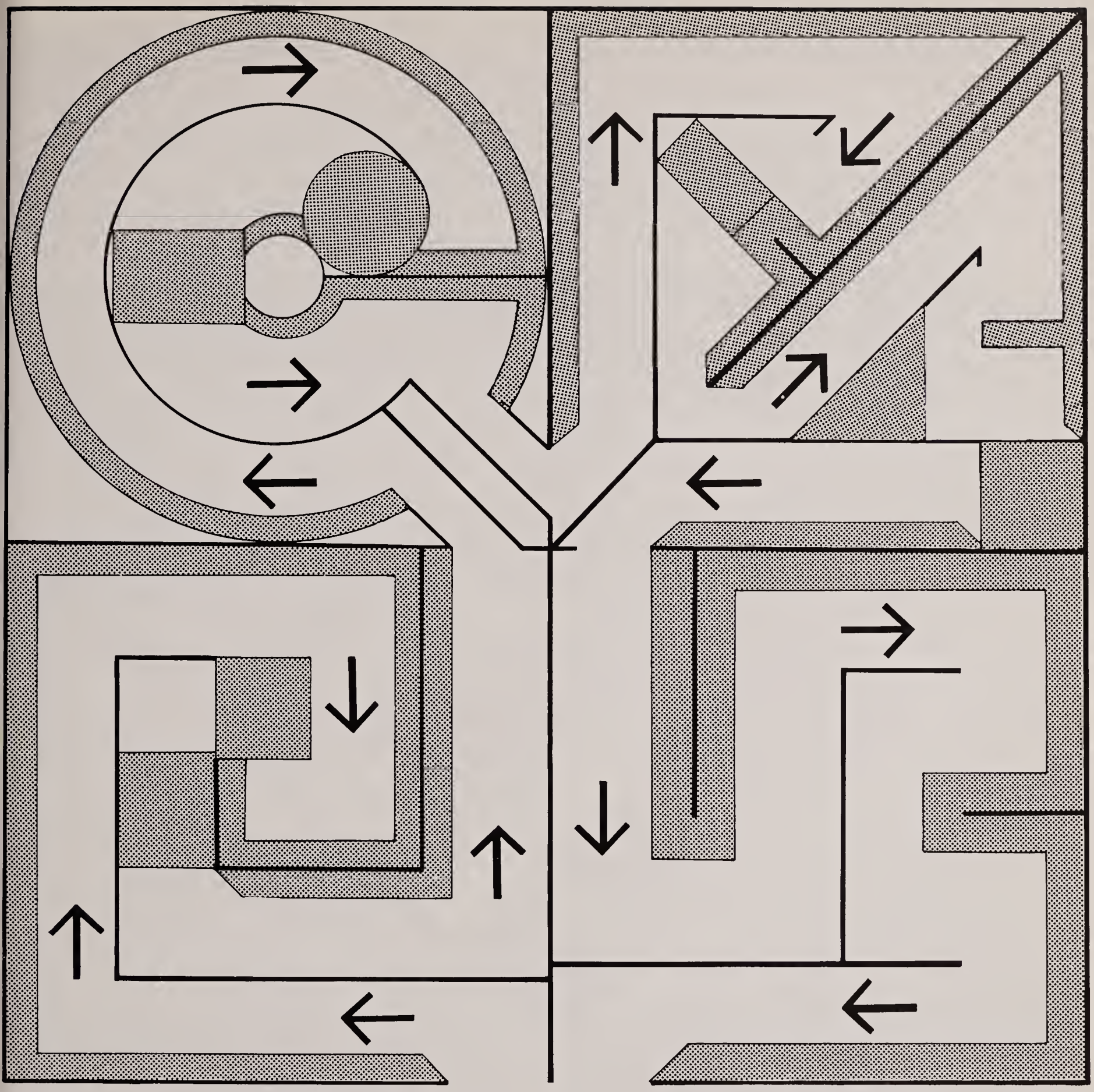
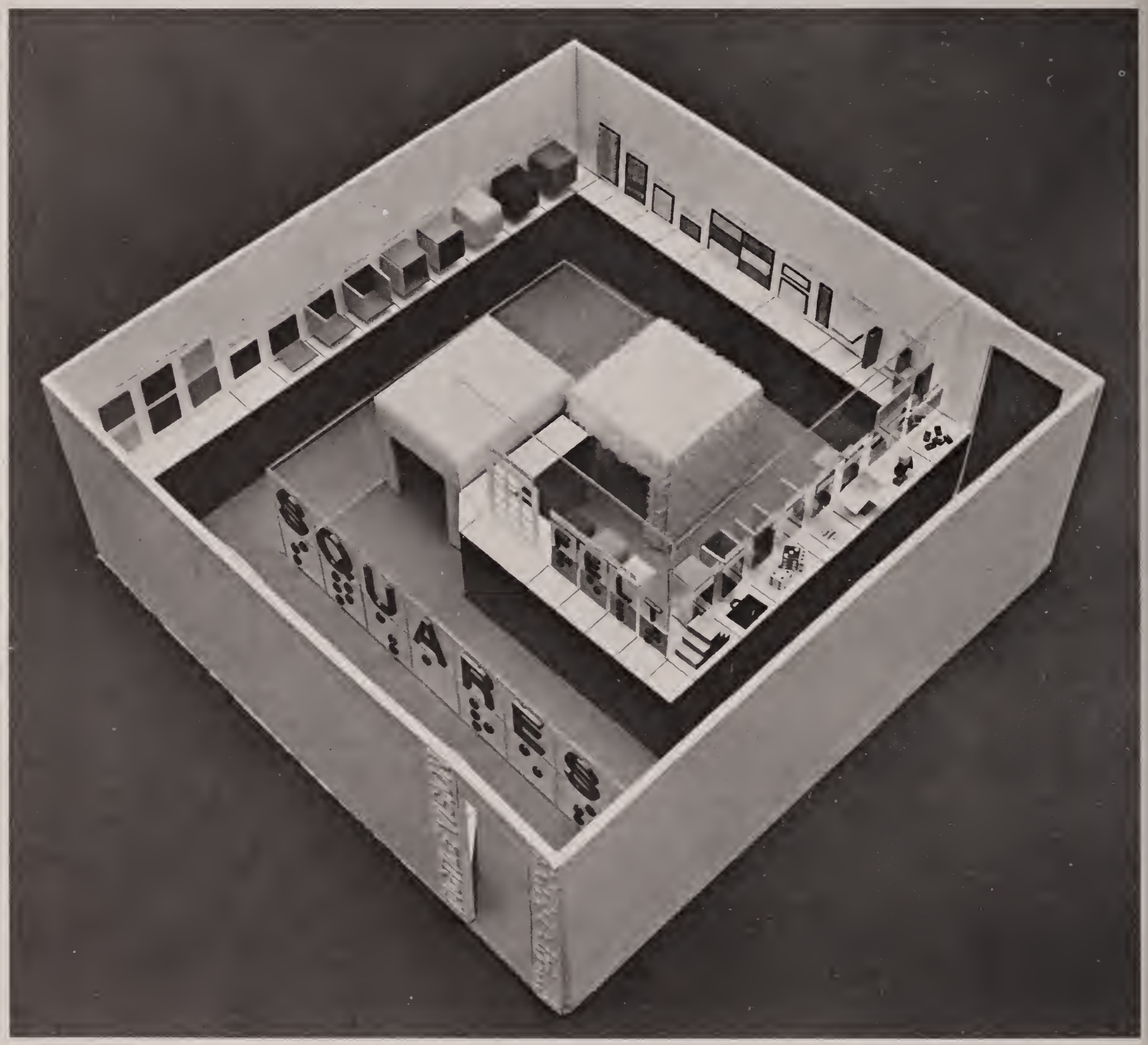


Figure 2
The Path of Exploration Through the Exhibition

Figure 3
The First Module:
The Square Room



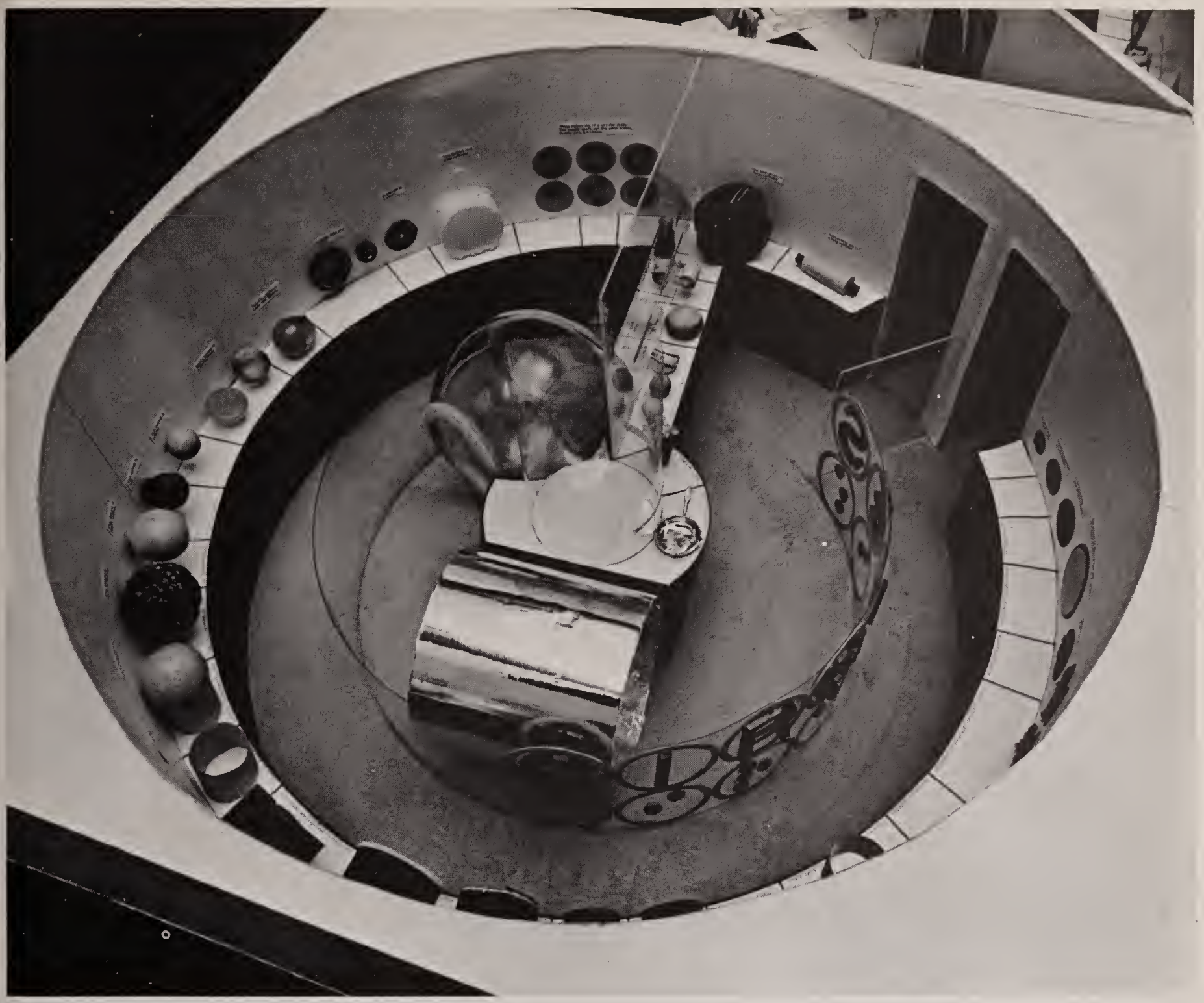


Figure 4
The Second Module:
The Circle Room

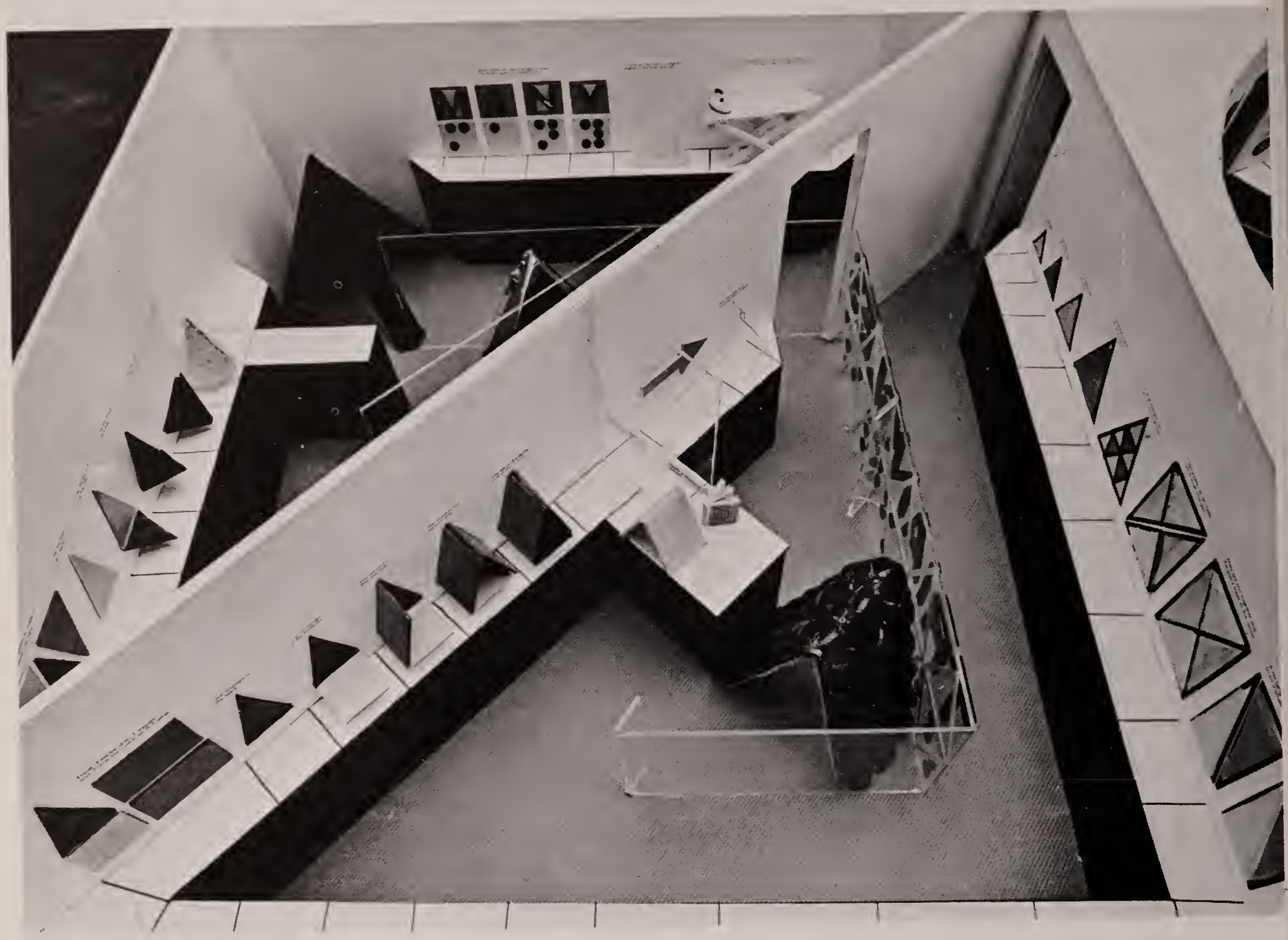


Figure 5
The Third Module:
The Triangle Room

Figure 6
The Fourth Module:
Composite Forms



Sex Education as Part of an Agency's Four-Week Summer Workshop for Visually Impaired Young People

ABSTRACT: The sex education program was developed by agency staff, parents, and resource persons. Curriculum content, which included the physical, emotional, and social aspects of sexual maturation, grooming and hygiene, cosmetics, and drug use and abuse, was based on the expressed interests of the students. Aiming for the development of personal growth in awareness, self-expression, and individual responsibility, the teaching strategies were student-oriented and included group discussion, group activities, problem-solving, and demonstration/participation.

MARY LOU KARPEN, M.A.
LEE ANN LIPKE, R.N.

Ms. Karpen, formerly an orientation and mobility instructor, Grand Rapids Association for the Blind, is now a mobility instructor at the Clovernook Home and School for the Blind, Cincinnati; Ms. Lipke is a school nurse with the Grand Rapids (Michigan) Public Schools.

Within the past two years, teachers and others concerned with the visually impaired have begun to recognize the need for good sex education programs. Since most of the sex education programs are being developed for use in the school curriculum, what then is the role of the individual agency serving visually impaired persons? Should the individual school or school system share the responsibility for the development of sex education programs only with the parents, or can the private agency also play its part? Even if all of the preliminary study guides were to develop into permanent programs, it would be quite a while before sex education programs would be recognized and accepted as part of a school curriculum. Also, what about the children that are reaching puberty now? Are they to wait until programs are developed in the schools to meet their needs? The individual agency *can* meet these immediate needs by functioning as a vehicle for sex education programs until the schools can adopt a comprehensive program as part of their curricula. It is important to remember, however, that the support, cooperation, and participation of parents is an important part of any successful program on human sexuality. The inclusion of parents at all stages of planning must be an integral part of its development.

Steering committee

For this reason the Grand Rapids (Michigan) Association for the Blind contacted a resource person and formed a steering committee of interested parents to determine the needs of the youngsters and to assist in developing a program on human sexuality. It was decided by the parents and staff that the program would be part of a four-week summer workshop and that the class would meet for one hour, approximately three times per week. The workshop also included mobility, braille, home economics, typing, and arts and crafts.

Program Objectives

☐ The general program objectives, developed by the steering committee and refined by the staff and the resource person, were: 1) to help the person develop a positive, realistic self-concept by understanding the physical, emotional, and social changes that occur as one grows from childhood into adulthood; 2) to help the person develop skills in communicating about his/her developing sexuality with parents and other people and to determine when this communication is appropriate; 3) to help the person become self-directed by identifying

and developing a value system by which he/she makes decisions and to understand the differing values of other people; and 4) to help the person recognize his/her need for friendship, and relationships, for giving and receiving love, *and* for beginning to develop responsible ways to meet these needs.

Preliminary outline

Before the program began, a tentative class outline was developed. The purpose of the outline was to give us some ideas on where to begin and *not* to pre-determine the class content. For the first week of classes, the outline called for establishing a trusting and open atmosphere so that the students would feel comfortable and be able to communicate about themselves. Further, we planned to obtain student feedback on their interests, concerns, and subjects to be covered in the class. During the second week, we planned to teach the terms related to sexuality, to identify background information of the students, and to begin to develop an understanding about body changes in males and females. The third week was to be devoted to reproduction and the fourth to developing an understanding of the need for friendships and relationships.

Teaching strategies

The teaching strategies to be used to accomplish the objectives of the program were primarily student-oriented and included group discussion (verbal responses by the students), group activities (study guides with written responses), small group problem-solving (practice in decision-making), demonstration/participation by the students, and reading/lecturing with small-group discussion by the students.

Curriculum revision

The classes began with this tenatative structure. During the first meeting the students decided to meet two to four times per week; to have boys and girls together for all classes; and to have refreshments once a week. The students were not interested in a whole week on reproduction; they requested drug information, grooming, and make-up. The following is the curriculum as it developed from the students' expressed needs and areas of interest *and* as it was modified by the parental steering committee. This content did vary from the tentative outline. Since the students requested that all classes be integrated, male and female, some material was omitted at the request of the parental steering committee. A letter was sent to the parents of each youngster enrolled in the program to explain its content *and* to have parents sign a permission form for their youngster to attend the classes.

The Workshop Program

☐ The primary leaders of the program included one resource person (a school nurse) and an orientation and mobility instructor. Assisting was a braille instructor, an occupational therapist, and a visually impaired college student. Seven students took part in the program, four boys and three girls, 12 to 15 years of age. Four of the students were partially sighted, one was totally blind, and two were orthopedically handicapped. The classes were 50 minutes in length and met two to four times per week for four weeks, with 12 classes in all. The classes usually began with a verbal sensitivity exercise; the leaders and students were always seated in a circle to enhance the feeling of group interaction.

Guidelines

The following guidelines for each class in the program are arranged so that other teachers and staff members can use it in implementing a similar program in their own agency. After the statement of the primary goals for each week,

the objectives for each class are listed (in italics); the learning activities designed to accomplish these objectives then follow.

Establishing Goals

☐ First week—Primary goals: to introduce the students to the program; to obtain student feedback; to determine the subject matter for classes.

First week, first class: *feeling comfortable with each other*—have students give name and age, ask students how they feel about the classes, have students choose a person and find out something about him/her (allow ten minutes for the exercise); *introduction to the program (include emotional, physical, and social aspects of sexuality)*—group discussion on growing up, sexuality, and becoming an adult; *helping students to become self-directed and to share in the development of the program*—ask how many classes per week they want, if they want to be integrated, and if they are attending the classes voluntarily. At this point, a study guide questionnaire was given to the students asking for answers to the following questions: 1) What words do you know that are related to or are about sex? (Include slang words.) 2) What are the general questions you have about growing up, becoming an adult, and human sexuality? 3) What is a fear or problem that you have about your body, adult life, or sexuality? 4) Check the following subjects that you would most like to study in these classes: grooming and good health habits, male and female body changes, reproduction (how babies are made), new feelings and adult behavior, and other subjects.

Study guide questionnaire

First week, second class: *getting to know each other and feeling comfortable in the group*—have students introduce the person sitting to their right and tell what he/she wants out of the classes; *identify background information in education about human sexuality*—discuss sexuality and how it is related to the growth process, have students verbalize words dealing with sexuality (slang words are accepted and used as a point of departure toward learning the correct terms), have students break up into groups of two's and three's and ask each person to share: 1) How old were you when you first learned about sex? 2) Who told you? 3) Was the information accurate? (allow 15 minutes), share the responses with the class.

Background information

Proper Terminology

☐ First week, third class: *introducing proper terminology and establishing a verbal foundation*—read the prepared word list and have students indicate on paper if the word applies to a male, a female, to both or don't know (word list: acne, adolescence, adrenal glands, anus, bladder, breast, cervix, circumcision, clitoris, egg cell, ejaculation, endocrine glands, erection, facial hair, Fallopian tube, foreskin, genes, genitals, hormones, labia, masturbation, menopause, menstruation or "period," nocturnal emission or "wet dream," orgasm or "climax," ovaries, ovulation, penis, pituitary gland, pregnant, prostate gland, puberty, pubic hair, scrotum, semen, sexual intercourse, sperm cell, sweat glands or oil glands, testicles, thyroid gland, underarm hair, urethra, uterus or "womb," vagina); *sharing students' responses to the study guide questionnaire and identifying the areas of emphasis they have chosen for classes*—discuss their responses to the questionnaire and inform them of their concerns as a group; *learning when it is appropriate to talk about sexuality*—have students share times when parents, teachers, or others have not listened or have respond-

ed negatively to inquiries about sexuality, explain that sometimes it is difficult for adults to talk about sex because they have limited knowledge in the area and feel inadequate.

Sexual Maturation

☐ Second week—Primary goal: to understand the physical and emotional changes of males and females growing into adulthood.

Second week, first class: *learning about the causes of sexual maturation*—discussion of the cause of bodily changes (glands, hormones, etc.), individual differences in the rate of changes, and the earlier development of girls (these changes usually begin in girls between the age of ten and 16 years and in boys approximately two years later; the changes begin at a time that is right for the individual); give a verbal presentation of general bodily changes in the approximate order in which they occur, pointing out that many of the changes overlap and noting those changes that occur only in females or in males (for example: body odor; acne and oily skin and hair; [females: breast budding]; enlargement of genitals—outer reproductive organs; appearance of pubic hair —straight and fine at first; rapid growth spurt; inner reproductive organs mature; body shape changes; pubic hair becomes dark, kinky, and coarse; [females: onset of menstruation and the release of an egg; males: first ejaculation and production of sperm, onset of nocturnal emissions or "wet dreams"]; underarm hair appears; sexual thoughts, feelings, and fantasies occur; masturbation; [males: facial hair, beard]; voice pitch changes); *understanding strong new sexual feelings as normal and healthy—caused by hormones within our bodies*—It is important that the teacher determine what the students know about masturbation. They need to be assured in a direct way that masturbation, or "playing with your genitals," is one of the normal means of expressing sexual feelings. There is no harm in masturbating as long as you enjoy it. Point out that most males and females at some time in their lives do masturbate. Emphasize that it should be done in the privacy of their own room and should not be done in public or in front of others. Discuss homosexuality and heterosexuality. Most people have occasional homosexual thoughts and many people have had homosexual experiences—usually in their early teens. This does not make them homosexuals. A homosexual is a person who, in his adult life, prefers and has sexual relations with members of the same sex. *Understanding the process of sexual intercourse*—ask the question "Do you know what sexual intercourse is and how a baby is made?"; accept slang terms in the replies; explain sexual intercourse and its importance in our lives for giving and receiving love and pleasure to self and others and for reproduction; make talking books available for students to take home.

Bodily changes

Masturbation

Sexual intercourse

The Female

☐ Second week, second class: *understanding the physical changes of the female and her reproductive system*—review female changes discussed in the previous class; review new words and definitions, including labia, vagina, uterus/womb, Fallopian tubes, ovulation, breasts/mammary glands, clitoris, hymen, ovaries, egg, orgasm, and menstruation; for descriptive purposes, the ovaries can be described as the size of the thumbnail and the uterus the size of a fist; read the third chapter from *Love and Sex in Plain Language*, by Eric Johnson, with group discussion on this and other material covered in this les-

son; *demonstrating how women are wrongly conditioned to conform to beauty standards in order to feel okay*—have students with enough vision make a magazine collage of exaggerated concepts of femininity as depicted in the mass media, and have totally blind students recall advertisements heard on television or elsewhere illustrating this same point; group discussion of the myths of female sexuality.

The Male

☐ Second week, third class: *understanding the physical changes of the male and his reproductive system*—review male changes discussed in previous class; review new words and definitions, including penis, testicles, semen, erection, orgasm, scrotum, sperm, prostate gland, ejaculation, and nocturnal emission/"wet dream"; read the second chapter from *Love and Sex in Plain Language*, by Eric Johnson, or the chapter entitled "The Male" from *Facts About Sex*, by Sol Gordon; group discussion; *helping the student develop an understanding of the opposite sex and sex roles*—repeat activities that were presented for the female and apply to the male; discuss behavior of males and females, how it is different, and how it is similar; separate boys and girls and ask them to list toys that they played with as children and then share their lists with the whole group; discuss inborn vs. learned behavior.

Sexuality and communication

Second week, fourth class: *encouraging communication about sexuality at home*—ask students if they are discussing classes at home with their parents (about half of the students in this program were communicating at home) and discuss why it is difficult for some adults to talk openly about sexuality; *facilitating communication and understanding about sexuality*—hand back the word list completed by the students, discuss correct responses and their definitions, and encourage students to take home talking books and braille books; *helping other people feel good about themselves*—have students take turns shaking hands with the person to their right and saying something nice about that person; *review of the bodily changes of males and females*—ask what causes these bodily changes (glands that produce hormones).

Third week—Primary goals: to learn about personal hygiene and grooming; to learn about drug use and abuse.

Good Grooming

☐ Third week, first class: *review good general grooming habits for adults*—class demonstration using soap, toothbrushes, deodorant, shampoo, witch hazel (and other facial care materials), and razors (electric or manual for girls to use on legs or underarms and for boys to use on face); *for girls, learning about menstrual grooming and cleanliness (daily bathing during menstruation)*—give individual and group demonstration for girls on the use of menstrual grooming supplies; each girl practices putting a pad on a belt.

Third week, second class: *for girls, learning about make-up*—professional make-up saleswoman taught girls how to apply make-up, with individual participation; *for boys, learing about shaving*—group demonstration by male staff member who is visually impaired.

Drug Use and Abuse

☐ Third week, third class: *helping students feel good about themselves*—have students take turns saying one or more good things about themselves; *learning about drug use and abuse*—present informational material about drugs (see resource list); define drugs as any chemical you put into your body, for exam-

ple, alcohol, barbiturates, volatiles, tranquilizers, narcotics, stimulants, tobacco, marijuana, and psychedelics; distinguish between drug use (for medical and recreational purposes) and drug abuse (overprescription by doctors and taking illegal drugs or taking drugs illegally); *sharing knowledge and experiences of group members with drugs*—divide group into two parts and have group leaders volunteer; have group members share any personal experience with drugs, the experience of a friend, and things they have heard about the problem of drug abuse.

Resource person

Third week, fourth class: *sharing individual differences and values about taking drugs*—have students debate the pros and cons of taking drugs; *helping the person become aware of making responsible decisions concerning drug use and abuse*—discuss benefits of drug use and the disadvantages of drug abuse; *learning about community resources for drug education and rehabilitation treatment*—discussion on drugs led by resource person from Project Rehab (local drug rehabilitation program), present students' written questions about drugs, and encourage verbal response.

Human Relations

☐ Fourth week—Primary goal: to learn about relationships and friendships.

Fourth week, first class: *becoming aware of the need for friendships with peers*—group discussion about taking more initiative in being included in group activities; *exploring various levels of relationships*—group discussion about the special problems of the orthopedically and visually impaired in dating and social activities (discussion was led by two visually impaired college students and included such topics as how to ask someone for a date, how to accept a date, mobility, transportation, reading menus, finding rest rooms, etc.); use role-playing in which a student asks permission from the parent (with different students taking turns being the parent) to go out on a date.

Class evaluation

Fourth week, second class; *obtaining feedback and evaluation of the class from the students*—students are asked to complete a student evaluation form which included the following items: 1) The material in these classes is important to me (Yes, No), why? 2) I liked having boys and girls together during the classes (Yes, No, Don't Care); 3) What did you like best about the classes? (Filmstrips, group discussion, study guide, small-group discussion, listening to talking books, role-playing, writing and asking questions); 4) What did you like least about the classes? 5) The material that was most important to me was: male and female body changes and talking about new words, friendships and dating, drug information, make-up demonstration and grooming; 6) My questions were discussed and answered (Yes, No, I had no questions); 7) I would like more classes next year (if Yes, check subjects: body changes and functions, reproduction, health and grooming, man/woman relationships, drugs, venereal disease, other subjects you would like to suggest; if No, why?); 8) What would be a good title for these classes? 9) How would you rate the leadership of the teacher, resource persons, and staff members (Good, Fair, Poor)? Note: Five of the seven students said the material was important to them and that they would like more classes the following year.

Reading Materials and Resources

☐ The following reading materials and community resources were used for the classes: 1) *Love and the Facts of Life*, by Evelyn Duvall (New York: Associa-

tion Press, 1967), a lengthy talking book for high school students; 2) *Facts About Sex: A Basic Guide*, by Sol Gordon (New York: John Day, 1969), a book written for young people; 3) *Love and Sex in Plain Language*, by Eric Johnson (Philadelphia: J. B. Lippincott, 1967), a talking book that "reads easily" and does not beat around the bush; 4) *Love and Sex and Growing Up*, by Eric Johnson (Philadelphia: J. B. Lippincott, 1970), a talking book for ages 10-12; 5) *Sex: Telling It Straight*, by Eric Johnson (Philadelphia: J. B. Lippincott, 1970), a book in braille for grades six to ten; 6) Project Rehab—resource person and pamphlets on drugs; 7) Make-up demonstrator.

Follow-up meeting

As a follow-up to the classes, a meeting of the steering committee, the resource person, and staff was held. At this meeting the content and student evaluation of the program were discussed. The importance of continuing communication between parents and children in the area of sexuality was encouraged. Because of the lack of audio-visual aids for the visually impaired in the area of sexuality, a tape is being developed to facilitate a concrete understanding of body changes. This tape, entitled *Your Changing Body: A Self-Exploration* is being developed for use within the framework of a program on human sexuality. The tape guides the person on a self-exploration of his/her own body in the privacy of his/her room; the student is also able to listen to the body exploration of the opposite sex.

Summary

☐ In conclusion, the ultimate goal of offering a program on human sexuality is to help youngsters who are visually impaired to "cross the bridge" from childhood to adulthood. This responsibility can and must be shared by all of those concerned with the growth and development of youngsters who have a visual impairment. Whether it is the agency or the school that is primarily responsible for program development, the parents must be involved at all levels to insure its success. The program must also be student-oriented and, therefore, a major portion of the content should be based on the students' interests and concerns. When the input of parents and students becomes a real part in determining the direction of the program, the agency or school can be assured that the program on human sexuality will meet the needs of youngsters as they grow into adulthood.

Unless we, as concerned teachers and as adults, take the initiative in developing and implementing programs on human sexuality, we are not fulfilling our responsibilties to these youngsters. We must begin to encourage the maximum growth potential from all youngsters with a visual impairment. We must enable them to grow toward a fuller and more satisfying life—and we must begin now.

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New Cassette Tape Teaches Adolescents About Their Physical Maturation

Your Changing Body: A Guided Self-Exploration is a 40-minute cassette recording developed for the Association for the Blind and for Sight Conservation, Grand Rapids, Michigan, by Lee Ann Lipke, R.N., a school nurse, and Pat Allen, a specialist in the preparation of audio-visual materials. The idea for the tape grew out of the agency's experience with its sex education program for visually impaired students.

Aim of the tape

The aim of *Your Changing Body* is to prepare young people, 10 to 18 years of age, for the physical and emotional changes they will undergo as they grow into adulthood. The agency's staff, teachers, counselors, visually impaired young adults, and a committee of parents were involved in the evaluation of the tape and the guide for parents and teachers that accompanies it.

Ordering information

It is recommended that the tape be used within the framework of a series of classes on "Growing Up," "Adult Life Education," or "Personal Growth and Development." The kit, which sells for $18 (prepaid), consists of two copies of the cassette recording and the guide for parents and teachers; it may be ordered from the Institute for the Development of Creative Child Care, 927 Bemis, S.E., Grand Rapids, Michigan 49506.

Traditional Nursery Rhymes and Games: Language Learning Experiences for Preschool Blind Children

JOAN W. BLOS

Ms. Blos is with the Early Childhood Program, School of Education, University of Michigan, Ann Arbor.

ABSTRACT: The young blind child tends to be limited in his experience with books, stories, and rhymes, a fact reflecting the combined influence of his own inability to signal his appetite for new and ongoing language play and the parents' incapacity to identify, locate, and present to him new and suitable material. Suggestions for a definite, but informal, sequence of language-related activities, using songs, rhymes, records, stories, and some of Mother Goose, are made. Throughout, the underlying concept is that what the preschool blind population requires is not picture books without pictures, but intact literary material which is, nevertheless, accessible to the blind child's learning condition.

The question at first seemed simple: what stories could I recommend for reading aloud to young blind children, four years old and younger? As a specialist in language arts and children's literature, I had recently become associated with the University of Michigan's Child Development Project. There, under the direction and leadership of Selma Fraiberg, a longitudinal study of a small group of children, blind at birth but with no other discernible handicaps, was being conducted by a staff representing the fields of psychology, social work, and special education. Simultaneous with their investigation of the ego development of the preschool blind child was their commitment to provide educational, home-based guidance to these very young handicapped children and their families (Fraiberg, Smith, & Adelson, 1969). It was in connection with this part of the work that my colleagues came back from their work in the field to ask me, as they had been asked by parents, "What stories can you recommend for reading aloud to young blind children four years old and younger?"

□ I knew, of course, that accurate and versatile language would be especially important for these children and that even more than their sighted peers they would depend on such listening skills as finding the key idea, remembering sequences, paying attention to details, drawing inferences. Yet I was also aware that blindness severely limits opportunities for direct experience of the correspondence between the statements made and the thing referred to, interferes with the development of concepts of objects (as well as the concept of object constancy as a phenomenon to be explored), and confounds the establishment of body and self-image as reflected by the postponed stabilization of the personal pronoun (Fraiberg & Adelson, 1973). In other words, the very disability that creates the need for superior language skills interferes with their acquisition in specific, predictable ways.

The research conducted by the Child Development Project, University of Michigan, was supported by Grant #DH01-444 from the National Institute of Child Health and Development and Grant #OEG-0-9-322108-2469(032).

Rate of achievement

For example, in the area of language development and language play, nearly all of the children studied by the Project had been successfully introduced to games such as "Patty Cake," "How Big Is Baby," and "Show Me Your Nose" before they were one year old. Yet at two years of age, and even three, they still played the same games and even the most articulate of them were not interested in stories that were read aloud. We were also puzzled because even such elemental recitals as develop from the familiar opening line "When you were very little . . ." failed to interest these youngsters. Eventually Fraiberg and Adelson (1973) were able to discover how this was related to other aspects of cognitive development. For the purposes of the present discussion it will be sufficient to note that in this area of development, as in others, the problem is not that the children fail to achieve, but rather that the *rate of achievement* shows marked alteration when compared with sighted norms. With regard to word games and body-part naming we find explicit data in the files of the Project.

Examples

Carol 1:10 L. W., the case worker, played "Banberry Cross" with Carol. After L. W. touched Carol's body parts during the song, on the next time through Carol touched her own hand at "rings on her fingers" and lifted her foot at "bells on her toes." At "music wherever she goes" Carol lightly tapped the tambourine that L. W. held.

Joan 1:11. She stood in the toy chest and held the doll while Mrs. C., the worker, talked to her. She asked her to say "doll" and point to the doll's hair, but she would not. Mrs. C. said "nose" and Joan touched her nose; she said "mouth" and Joan put her finger in her mouth. Mrs. C. then asked "Where's my nose?" but Joan was occupied with the toys and paid no attention. . . .

Elizabeth. 2:1. She (Elizabeth) touched my nose and then she touches her own nose and she says "nose" to each one. Then she also touches her chin and says, "My chin." And then when she touches my chin, she also says, "My chin." She then went back to touching my nose and she said "More nose." (See also, Ulrich, 1972.)

But it is not until Elizabeth is four years and four months old that we find definite interest in recorded stories—at which time Elizabeth prefers them to TV. (When, at five, she liked a Walt Disney record of Kipling stories, her mother felt it was the rhythm of the words that attracted her most.)

Books for Preschool Children

☐ Perhaps we can gain some understanding of the severely visually handicapped or blind child's dilemma by thinking about the kinds of books that are most often enjoyed today by their fully sighted age-mates. "Flats" are what the publishers call them, but to the reading public they are known as picture books. In the best of these large, bright volumes, the words and pictures function together, they work synergistically. Even where this degree of integration has not been attained, the illustrations are very important—at times prevailing over the words, but more often offering visual supplement to what has been said in the text. Certainly this is the case in the following excerpt from a popular picture book (Udry, 1956) which may, with pictures intact, be expected to be understood by most three-year-olds:

An example

"Trees are very nice. They fill up the sky." (p. 1 of text of unpaged book. Double spread. Art shows a leafy green forest. Boy lies on his back, looking up into trees.) "They go beside the rivers and down the valleys. They live up in the

hills." (Double spread. Black and white drawing. Boy is fishing from tree-lined river bank. More trees in background.) "Trees make the woods. They make everything beautiful." (Full color. Double spread. Sun in blue sky blazes down over tops of tall trees—some of these are evergreens, firs; there is one stand of birches. In the distance is a mountain ridge. No human figures.)

For the very young and visually handicapped child, the message may well be: "Blanks are very nice. They fill up the blank." (Sound of page turning.) "They go beside the blanks, and down the blanks. They live up in the blanks." (Sound of page turning.) "They make the blanks. They make everything beautiful." (Or is this a blank, too, being a visual term?) No wonder the parents of children studied by the Project had been unable to interest their children in listening to the stories read aloud from these books!

Mother Goose rhymes

Of course, as soon as this was clear to us, it also became clear that our task was not so much to find books that could be read aloud to these children as to locate suitable material that was not, and never had been, dependent on illustration—a prime example of which is Mother Goose. The first published editions of these traditional rhymes did not appear until the eighteenth century, but people had heard them for years before that—passing them on across the generations, relying only on oral transmission to keep them alive and fresh. With such a history it is no wonder that the rhymes, chants, songs, and games which make up the traditional nursery literature had long since been adapted to the purposes of the teller and the needs of the listener. The rhythms are clear, the rhymes give pleasure; simple actions (and tunes) often underscore the texts. When, in a later, forthcoming article, we come to consider some of the identifying characteristics of fairy, folk, and nursery tales, we shall discover extensions of many of these same qualities; we shall find that this built-in suitability for oral transmission commands special attention from those who work with young blind children.

A Language-Incentive Program

☐ The following suggestions outline a home-based language-incentive program of activities using traditional nursery rhyme material aimed at the preschool blind child. The goals and functions of these activities are to offer functionally valid alternatives to the picture book literature of the preschool years, and to supplement the more usual and task-oriented means for the gradual induction of the child into language as a symbol system for gaining knowledge of the world, organizing its phenomena, and taking and giving pleasure with the written and spoken word.

Role of the parents

As in so many other aspects of the education of the very young and specifically handicapped, much depends on the parents. In this context it is crucial that parents be willing, as well as able, to acquaint themselves with enough material to be able to sustain a high, varied, and spontaneous level of language stimulation through word-play games. Of course it is important that all parents do this for all of their children. Most of them do. But when we are considering the special needs of blind and visually handicapped children, we are speaking of a population for whom the period of early language acquisition is not only very important, but invariably extended. In such circumstances, the usual parental repertoire of half a dozen rhymes or so may simply not be sufficient. For this

reason, the following specific recommendations are made concerning rhymes that may be used. These suggestions are supplemented by the titles of some of the better anthologies and collections of such material. They are more likely—because of their publication dates—to be found in libraries than book stores, but both sources should be consulted. Of course, asking teachers, librarians, and local book suppliers may turn up other titles of equal or greater merit.

The blind child's world

One further comment. It is our opinion that there is, especially with regard to language, a difference between thinking about a four-year-old child who is just like any other except that he cannot see, and trying to understand what it means to be a child, four years old, who is blind. In the former construction it is imagined that vision is a separate (and separable) phenomenon; the latter has a holistic base, implying that the lack of vision affects the system totally by making a major difference in subjective levels of experience, in the world as it is perceived. This point of view will be implicit here.

Because we are thinking now of the preschool child, we have in mind the home setting and assume that parents will be its main initiators. Yet, many of the ideas offered here apply as well to small group settings and teachers may, therefore, wish to adapt them.

Early Experiments

☐ Being aware that much of the language activity in which the young blind child engages is not strictly practical, members of the Project staff sought diverse substitutes for picture books that would foster familiarity with books and spark an interest in language. At first they were very optimistic about specially-made book-like toys in which pocket-like pages held various objects for the child to handle. Although some of these attracted interest and may have encouraged some naming of textures or recognition of disparate objects by their feel alone, their value proved limited. (It should be noted that we take full responsibility for the failure of the books. We are, however, grateful to Mrs. Sharon Shaffii and the members of her committee for the skillful and imaginative construction of the items used and gladly thank them for their efforts at this time.)

Textured pages

Other early attempts to find good material focused on commercially available books with textured pages. For instance, *Pat the Bunny*, by Dorothy Kunhardt (1962), is the prototype of this preschool genre in which swatches of varied materials are combined with conventional pictures to represent an object. Therefore, when the text invites reader-listeners to "Touch Daddy's scratchy face," the illustration on the facing page offers a father in an undershirt to whose about-to-be-shaved face a bit of fine grade sandpaper has been neatly affixed. That the blind child would be deprived of all the corollary information contained in the pictures—the washbasin, the poised razor, the tiled floor (just like mine!)—is unfortunate but not irredeemable. What rules the book out is the page on which we find a tiny oval of silvery paper framed as part of a boudoir set including brush and comb. "Look in the mirror and who do you see?" the printed text gaily asks. For the blind child there is no looking. Is there no me? (Lately, we have had positive reports from parents on books of the "Touch Me!" series, published by Golden Press; "Scratch-a-Smell" books from Mulberry Books, Inc.; "Golden Fragrance" books, also from Golden Press; and

"Touch and Tell" stories from Hubbard Press. All of these are priced at under three dollars.)

Finger Plays

☐ In the final months of the Project, we began to speculate that finger plays, which combine kinesthetic with auditory cues, might more accurately substitute for the early bi-sensory experience of picture books than textured books can do. We recalled that nearly all of the children observed by the Project had been introduced to "Patty Cake," and that they had enjoyed it. Would other games have been equally successful if they had been offered? We believed that this was so even though the termination of funding cut short the study under whose auspices this work was being conducted and aborted the opportunity to test this hypothesis with the study's sample. We have, however, received confirmatory reports from others; Mrs. Sherry Raynor, director, Preschool Program for the Visually Impaired, Intermediate School District, Mason, Michigan, says also that she has found finger plays to be useful and successful with blind and visually handicapped children during the preschool years.

Enjoyed by all children

From the point of view of what to recommend to parents—and why—we believe that a significant characteristic of the games is that although some accommodation must be made for a learning process deprived of the opportunity for learning by imitation (the monkey-see-monkey-do method), the pleasure of the games themselves is *independent of vision;* the blind child and the sighted child can enjoy them similarly. Further, and finally, the games provide a natural and enjoyable basis for social interaction between child and parents or within the family group.

Part of daily routine

Because familiarity with the activity favors a relaxed mood, we suggest that the finger plays and their accompanying rhymes be introduced to the children in the context (setting) of a daily routine. Too, embedding the games in a recurrent scene makes them predictable and produces a sense of awaited pleasure: every day they put on my shoe, and now—one, two, button my shoe! we tell the funny words.

"Head and Shoulders"

☐ A simple game which provides a pleasurable introduction (or review) of the names of body parts is one in which the players touch both hands to head and shoulders and clap on "one, two, three." The words are repetitive and strongly rhythmic and many actions may be improvised beyond those suggested here: "Head and shoulders, Baby—one, two, three./ Head and shoulders, Baby—one, two, three./ Head and shoulders, Head and shoulders,/ Head and shoulders, Baby—one, two, three. . . ./ Knee and ankle, Baby—etc. . . . Touch the ground, Baby—etc. . . .Stand up, sit down, Baby—etc." (Tashjian, 1969).

"Hands on shoulders"

Later, when the child has acquired more verbal facility, the following variation, "Hands on Shoulders"—from the same source—offers challenge through pacing and quick changes of action. "Hands on shoulders, hands on knees,/ Hands behind you, if you please;/ Touch your shoulders, now your nose,/ Now your hair and now your toes./ Hands up high in the air;/ Down at your sides and touch your hair;/ Hands up high as before,/ Now clap your hands, one, two, three, four." (In this example the rhythm is a straight-forward two beats for the first four lines. The second four—commencing with "hands up high"—require a little more insight to sustain the pattern and rapid tempo.

They go: "*Hands* up high, *in* the air;/ *Down* at your side (and) *touch* your hair;/ *Hands* up high, *as* before,/ Now *clap* your *hands*, one *two* three *four!*")

Whatever their other virtues, rhythmic sophistication is not among those claimed by the nursery games. So, once the main beat is set, it is only a matter of adjusting stresses to keep the pattern going, the hands clapping, or the ball bouncing nicely.

"Round . . . the garden"

From Elizabeth Matterson's well-organized collection (1969) come selections which range from the entirely simple: "Round and round the garden (Run your index finger round the baby's palm)/ Went the Teddy Bear./ One step,/ Two steps, (Jump your finger up his arm)/ Tickly under there! (Tickle him under his arm)" to the more intricate: "Five little peas in a pea-pod pressed, (Clench fingers on one hand)/ One grew, two grew, and so did all the rest. (Raise two fingers slowly)/ They grew and grew and did not stop. (Stretch fingers wide)/ Until one day the pod went POP! (Clap loudly on pop)." Here it would be necessary to instruct the child quite specifically concerning the gestures required by the rhyme. In both of these examples, relating the rhymes to the child's experience is rather simply accomplished. In the first case, one can have the Teddy Bear go round and round the table (or the counter or the living room or the bed) and demonstrate this to the child. If the second rhyme is saved for the right season, it can be introduced along with an actual pea pod—thereby extending the child's awareness of natural objects and confirming the words of the rhyme. Three other rhyme-games at this level and beyond are reproduced below with drawings based on those in the book to demonstrate the actions. It is unlikely that one child would learn all of these games, or only these games; nor would more than one of them be presented at one time.

Selection of Plays

☐ As a final comment, we note that the person who is going to do the teaching ought to be honest about selecting plays which appeal to him as well as to the child. Since there are more than enough possibilities to choose from, no one need feel obliged to transmit something he dislikes. The child will detect "fun" that is phony, and then the pleasure is all spoiled and a wrong message conveyed. The same point might be generalized to all stories, tales, and poems chosen for sharing with children. It is not to be expected that adults and children will enjoy things in the same way. Still, one knows that some things please both, and we suspect that the reason these games have endured is precisely because they give mutual pleasure to adults and to children.

Summary

☐ The young blind child tends to be conspicuously and unfortunately limited in his experience with books, stories, and rhymes. We have considered the likelihood that this reflects the combined influence of his own inability to signal his appetite for new and ongoing language play (an initial enthusiasm for finger plays and other ritualized word games is often present, but wanes) and the parents' incapacity to identify, locate, and present to him new and suitable language material.

In response to the need that is thereby created, we have made suggestions for a definite but informal sequence of language-related activities using songs, rhymes, records, stories, and some of Mother Goose. Throughout, the underlying concept has been that what the preschool blind population requires is not

picture books without pictures, but intact literary material which is nevertheless accessible to the blind child's learning condition.

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There's such a tiny little mouse,
(Indicate how small with a thumb and forefinger.)

Living safely in my house.
(Place one forefinger into a clenched fist.)





Out at night he'll softly creep,
(Creep fingers slowly across the floor.)

When everyone is fast asleep:
(Rest head on folded hands.)





But always in the light of day
(Spread hand high and wide to represent sunrise.)

He'll softly, softly creep away.
(Creep fingers slowly back again to rest in the other hand.)





Here are the lady's
knives and forks,

Here is the lady's
table;





Here is the lady's
looking glass,

And here is the
baby's
cradle.





Here's a ball for baby,
Big and soft and round.

Here is baby's hammer,
See how he can pound.





Here is baby's music,
Clapping, clapping, so.

Here are baby's soldiers,
Standing in a row.





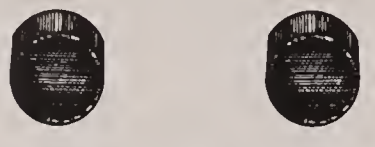
Here is her umbrella,
To keep our baby dry.

Here is baby's cradle
To rock-a-baby-bye.



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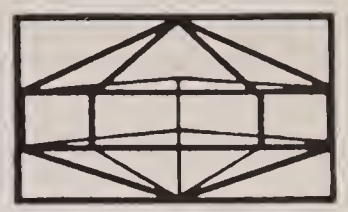


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Hindsight / M. Robert Barnett



Museums I Have Not Seen

This past quarter of a century I have had the delightful experience of traveling the world, visiting about 40 countries and as many cities within those countries. Some of the delight has been marred on occasion by such things as overheated trains, planes, terminals, busses and taxicabs, peculiar and underheated bathroom plumbing and, possibly, emotionally charged meetings.

While I have travelled alone, for the most part I have been accompanied by my wife or some other companion of the culture vulture sort who insists upon visiting museums. Museums, of course, are not just the kind which are huge buildings with collections of painting, sculpture, artifacts, and other assorted objects. They are also temples, mosques, cathedrals, palaces, coliseums, parthenons, and birthplaces, such as those of Jesus and Louis Braille. Add to these a myriad of bazaars, souks, little out of the way shops, and giant department stores, and one who is blind ends up with very sore feet and very little culture.

Take my last experience—El Prado in Madrid in March. While my wife proceeded to get us both lost in its maze of floors and corridors looking for the El Greco room, I pondered upon such lofty matters as how they keep the place clean and ventilated. From her descriptions of paintings, tapestries and sculpture, I did come away with an impression of sorts, but the guide book she bought and read to me back in the hotel room was decidely more informative, and definitely more comfortable since I was stretched out on the bed minus my shoes and tie.

The reason I have derived no cultural or intellectual growth from these visits is that I cannot see. The object of these collections is that one can find a world of knowledge and stimulation through looking, and I mean looking at history and beauty not to be found in the outerworld. Everything is either under or behind glass, or hanging or mounted high up on a wall or behind a protective railing. I know, for example, that Lindbergh's "Spirit of St. Louis" is suspended from the ceiling of the Smithsonian because somebody told me it is.

I have had these frustrations in France, Germany, England, Colombia, Peru, India, Greece, Israel, Italy, Egypt, Taiwan, Japan, several other South American and Asiatic countries, all four Scandinavian countries and even Moscow. If that statement makes me sound like a place dropper, then I am one. However, if such exposure has done something for my sighted companions, I question what it has done for me. Mind you, I am not bitter or mad or anything like that—just content that the experience has made me a patient and philosophical man.

Now, if you thought that all of this was leading up to an appeal for more touch museums especially for the blind, then you are wrong. I frankly admit that to examine sculptured objects, or to hold in the hand a ship model, or to feel the texture of an alabaster sphinx in the museum at Cairo is indeed a source of great pleasure, as well as informative. But these things should be provided for blind youngsters and even adults in learning situations. I shy away from the idea of "special' museums all over the place because of my belief that such projects create in the public mind over and over again, the belief that blind persons cannot enjoy the world as it is without seeing it. In fact, if I really am honest, and in spite of my foregoing comments, I really have derived satisfaction from these visits, and have gained much information and a degree of perspective. Besides, if blind people were allowed to touch the exhibits, after centuries of time and generations of rubbing hands, Venus de Milo not only would have no arms, she'd have little else.

Visual Values

Some time back this column talked about the time that I almost drowned in a Florida river. I mentioned that I was rescued in an unconscious state by a fisherman in a rowboat who heard the commotion made by onlookers and managed to get there and haul me out of the water on the third time I surfaced.

What I did not mention was that the fisherman was a Negro—or in the current fashion—a Black man. I told the story recently to a new friend, and for some reason I thought to mention to him this detail. His immediate response was that this is the reason I do not hate Negroes.

Now in the first place, I was startled that he would have any idea of my attitude toward Black people. In the second place, I would not have known that the fisherman who saved my life was indeed Black. Other people told me he was after the incident was over. This has led me to opine that much of the world's prejudices between groups and individuals would not arise if our visual values could be improved. In short, if everyone was blind, and everyone had a decent education, differences in figure, face, and color would be of no importance in human relations.

My friend said another interesting thing. He said that the incident proves that in time of crisis and need, human beings forget categories. In this instance, I was to my rescuer neither blind nor white, and he to me was not a Black man—just one darned wonderful man. Incidentally, I don't even know his name.

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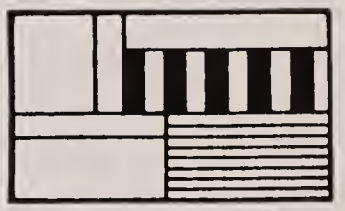
Remember Paul Langan? For those of you who do not, Paul used to work for the Foundation in its overseas program. Almost singlehandedly he helped set up a consultative system in the Far and Middle East. Before that, he was superintendent of the school for the blind in Kentucky.

Notwithstanding all that, Paul retired from active service a couple of years ago. Being an admirer of "Hindsight"—one among thousands—he has constituted himself as a foreign correspondent. He corresponds from the foreign country known as Virginia, where he and Laura have a dreamy-sounding house on some body of water, complete with his private oyster bed. His latest contribution to "Hindsight", garnered from his daughter, who is a mobility instructor, follows: "I have one student working in downtown Ft. Lauderdale, a 9th grade boy whose mother won't let him out of the front door alone. Like most cities, downtown here is pretty run down and Nigel's travel is often interrupted by derelicts and the aged. Today the Jesus freaks were out on every corner and one actually dropped to her knees and started praying at the sight of Nigel. As I passed she informed me that God would reward me for the wonderful work I was doing. I much preferred the old drunk who asked if I could teach him to walk straight too!"

Afterthought

It just occurred to me. I mentioned earlier that if everyone were blind, there would be no prejudice. Well, there also would be no streakers. See you in Brazil.

Review



Developmental Handicaps in Babies and Young Children, by Diana L. Brown. Springfield, Illinois: Charles Thomas, Publisher, 1972. 89 pp. $5.75.

Reviewed by Carol Millsom, Ph.D.

This slender volume is intended as a nontechnical guide to information useful for parents of handicapped infants and young children who are attempting to secure services for their children and themselves.

The first section of the book is a general overview of handicapping conditions which affect the young. The characteristics, origin and prevention of brain damage are discussed in the opening chapters. Orthopedic disabilities, sensory impairments, speech and language problems and minimal brain dysfunction are described under the rubric of developmental problems. Other handicapping conditions, retardation, epilepsy, cerebral palsy, muscular dystrophy, autism, and lead poisoning are treated in a subsequent section. Also included is a glossary of terms, primarily medical ones, which parents are likely to encounter in seeking services for their children.

This part of the book, although organized differently, does cover materials included in similar guides for parents. Many of the statements made here, however, are either in error or misleading. Tay Sachs does not occur only in Jewish infants; the Merrill Palmer Scale is not the instrument most widely used in the psychological assessment of preschoolers. Psychologists would be distressed to see their function described solely in terms of administering intelligence tests, evaluating and testing people with emotional problems. And the distinction the author makes between speech and language is hardly one that is widely accepted.

Despite these limitations, however, the subject matter is presented in a simple, readable fashion and contains much that would be reassuring or at least helpful to parents.

Probably most useful and less often included in guides of this type is the discussion in the last chapters of the book concerning the nature of the diagnostic evaluation and the counseling process. Here the author draws upon her extensive experience in counseling parents of handicapped children and speaks quite honestly of the value and limitation of professional counsel. In addition the author has provided a listing of community, state and federal agencies which serve the handicapped and their families. Since the book is so brief a listing of additional reference materials appropriate for parents might have been included as well.

The book would probably be most useful to parents who have recently become aware that their child is handicapped and as such would be an appropriate source to make available to parents in pediatricians' offices, well baby clinics, diagnostic centers or to distribute to them through public health nurses or social workers.

Dr. Millsom is associate professor in the School of Education, Program of Special Education, The University of Michigan, Ann Arbor.



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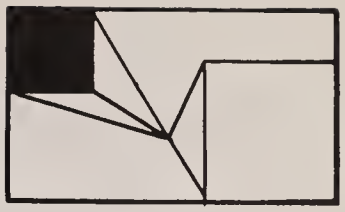
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Letters to the Editor



To the Editors:
This is a note to commend the work of Goldish and Taylor as expressed in their article of New Outlook in February 1974 concerning utilization and value of the Optacon. Those of us involved in the Optacon training programs suspected many of the conclusions that were verified. It is of the greatest importance to confirm this kind of speculation during the early development of new methods and programs.

There are some further questions raised by their work that I would urge them to pursue with additional inquiry. We need standard measurement of reading speed with comprehension on experienced Optacon users. Theoretical applications should be explored of as yet, unattempted, vocational applications. While I agree that the Optacon and Stereotoner apply to a different mode, there should still be some comparisons made so that better forms of direction can be given to the prospective reader with either instrument. In noting some of the controversy on other subjects in recent issues, one cannot help but feel how much more constructive it would have been to have this kind of investigation on a subject such as Braille Speed-reading before broadly recommending it to teachers and students alike.

Again, Mr. Goldish and Mr. Taylor are deserving of commendation for their pioneering inquiry, but it is a beginning that should lead to more specific investigation and measurement.
Lyle H. Thume
Rehabilitation Institute
Detroit, Michigan

To the Editors:
I admire Dr. Gerald R. Friedman for the advancements he is trying to bring to present day CCTV Systems for the partially sighted. Certainly, incorporation of varying shapes for control knobs and better placement of controls are desirable. Also, improved facilities for stabilizing reading materials, for maintenance, service, and training are both required and desired by all concerned.

On the other hand, I regret what has actually resulted from his well intentioned effort. Lines of opinion have been precipitated between the clinicians and manufacturers.

Time and energy are now being devoted to this squabble when they are better spent bringing new, needed improvements to the field.

I hope that through this letter we might cancel that which has gone before again to face the difficult equipment development problems still outstanding. Only by an honest and cooperative effort can we realize effective, simple, and practical solutions to the complex technical requirements of the partially sighted.
Bert Cohen
Visualtek
Santa Monica, California

To the Editors:
I was considerably impressed with the issues Michael Corbett discussed in his article on "Professionalism in Mobility" in the March issue of the *New Outlook*.

However, I would respectfully suggest that he omitted one significant consideration; that of the mobility instructor's relationship to other professionals in the delivery of services to blind and visually impaired persons.

At this point in time mobility instruction, having captured the public imagination, is seen by many partially informed persons as an all pervasive service to blind persons. As a result many agencies foist on their mobility instructors a number of responsibilities which are truly not theirs alone. Evaluating individual differences, teaching self-care skills, personal and family counselling, vocational planning; all of these require a variety of disciplines, of which mobility instruction is an indispensable but nonetheless a distinctly differentiated skill.

I am confident that Mr. Corbett and other mobility instructors like him are fully aware of the importance of a team approach to the provision of services. But the implications and details of such an approach remains to be clarified.
Benjamin Wolf
Regional Consultant
American Foundation for the Blind
San Francisco

To the Editors:
After reading the piece, "Hindsight," by M. Robert Barnett in the January issue of the *New Outlook*, I would like to say a little about travel. I am a retired farmer.

I operated a 1900 acre grain and stock farm for 40 years, 10 years with sight and 30 years without sight, as I am totally blind. It was six miles across the farm. I rode to the fields on machinery with help to start or adjust machinery and then I would walk home. Sometimes, I would ride my horse to the field. I did a lot of the care of the hogs and cattle besides repair of machinery. I always carried a crooked handle cane near forty inches long. I always tried to know just where I was and where I was going. I went by the lay of the land; heat of the sun; wind; sounds, such as the squawking of a windmill; a train in the distance; a car or truck or tractor. Somewhere also, the airplanes went East or West in our county, Western Kansas. I never was lost. I sometimes missed somewhere a little and had to circle a little. Riding the horse down the road, I could tell where I was by the sound of the different crops; a farmstead by sound of livestock,

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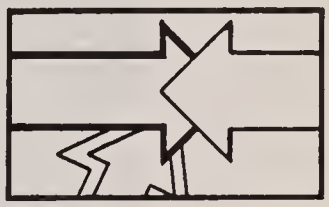
and maybe just by the hum of the telephone line going into the place.

In the dry 30's, I batched, for I was blind seven years before I was married. I herded 70 to 100 cattle on roadsides, lagoons, fields, or unfenced fields of grass —just anywhere to get feed for the cattle. I took three to five cowbells and put them on that many cows, then maybe six sheepbells on calves, then I knew they were keeping up. I would turn the cattle out of the corral, take my horse and cattle dog, and drive them to where I wanted them. I would ride my horse several rods to the edge of the herd as I could still hear the bells and the cattle on the edge move and eat. I would circle the herd, working the strays toward the bells. Of course, the dog and horse would help. When it was time to go in, they would ride on the far side and drive the herd home. My saddle horse died, so I bought another young, broke saddle horse that did not know anything about herding, so I had to train him to drive cattle and also to follow roads and paths. Whenever you are to a place to turn, a crossroad or turn-in to a farm, you have to turn them or guide them, I suppose as you would do a guide dog.

I rode a lot before I lost my sight and a lot after, as I like to ride.

A. E. Robinson
Goodland, Kansas

From the Field



Laws Governing the Mandatory Reporting of Blindness by Physicians

The failure to report visual impairments to administrators of services to the visually handicapped may mean a denial of services or inadequate services to individuals who have limited vision.

In order to ascertain the current reporting regulations in each state, the editors of the *New Outlook* sent questionnaires in February to the Department of State in each of the 50 states and the District of Columbia. Replies were received from all of them.

The majority of the states have no mandatory reporting law; one state, Illinois, repealed its law in 1961. Listed first are those states which do have mandatory reporting laws. The year in which the law was passed is indicated in parenthesis, following other pertinent information.

Several states which do not have mandatory laws have commissions or registries responsible for encouraging physicians to provide the names and addresses of persons with visual impairments. These states are listed separately, along with their specific requisites.

Physicians are required to report incidences of blindness in:

Connecticut within one month to the state board of education and services for the blind, in written form (1955).

Delaware to the Bureau for the Visually Impaired (1946).

District of Columbia to the department of human resources, in written form (1968).

Idaho to the state department of health, on forms to be provided by the department, the names of children who are suspected of having severe visual impairment (1972).

Indiana within ten days to the state board of health, on the form provided (1949).

Kansas within one month to the state board of health, on the form provided (1949).

Maine within 30 days to the state department of health and welfare, division of eye care (1967; amended 1973).

Massachusetts within 30 days to the commission for the blind. Forms for reporting are furnished by the commission on request.

New Jersey to the commission for the blind (Circa 1954).

North Carolina within one month to the division of services for the blind, on the form provided (1945).

North Dakota within 30 days to the superintendent of the state school for the blind in written form. Applies to the visually handicapped under 21 years of age (1973).

Rhode Island within 30 days to the state services for the blind (1966).

Tennessee within 30 days to the department of public welfare, the register of the blind, on the form provided (1973).

Virginia immediately to the commission for the visually handicapped (1950).

Non-Mandatory:

Iowa. Commission for the blind prepares and maintains a complete register of the blind.

Maryland. Voluntary reporting to the state register for the blind, department of education.

New York. State commission for the visually handicapped supplies a standard form for written reports.

Oregon. State commission compiles and maintains a register.

Pennsylvania. Maintains a registry of the blind, which is generated primarily from information gained in cases which the bureau for the visually handicapped is called upon to serve.

South Dakota. Maintains a register for the blind.

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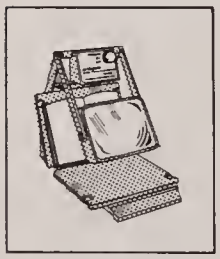
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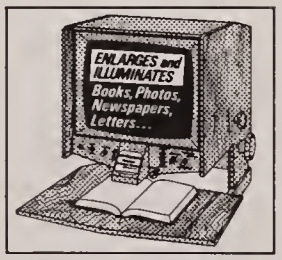
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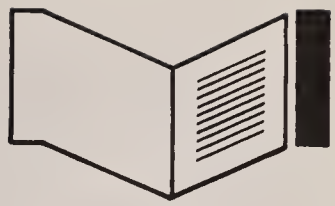
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Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

Guide to Effective Study Through Listening, by Carson Y. Nolan, Ray J. Brothers and June E. Morris. Louisville, Kentucky, American Printing House for the Blind, Inc., September 1973, 12p. Free pamphlet available from Recording for the Blind, Inc. (215 East 58th Street, New York, New York 10022) based on a U.S. Office of Education project progress report concerning "Aural Study Systems for the Visually Handicapped."

Beginning Educational Programmes for Blind Mentally Retarded Children," by Sally Rogow. *The Teacher of the Blind* (Royal School of the Blind, Church Road North, Wavertree, Liverpool, L156TQ, England), Vol. 62, No. 2, Winter 1973-74, pp. 40-46. Outline of an experimental program for multi-handicapped children started in 1972 in conjunction with a graduate professional development program for teachers in special education at the University of British Columbia in Vancouver, Canada.

The World Is Her Classroom, by Marjorie R. Longwell. *Delta Kappa Gamma Bulletin* (The Delta Kappa Gamma Society, P. O. Box 1589, Austin, Texas 78767), Vol. 39, Spring 1973, pp. 6-10. As a pioneer blind teacher in the Los Angeles Public Schools, Dr. Isabelle L. D. Grant helped to open the profession of teaching to other blind teachers throughout the United States. Since 1965 she has travelled to 66 countries and has helped set up teacher education courses, braille libraries and supply lines for necessary equipment such as braille books and paper, typewriters and braillers.

With Eyes Wide Open—Llew Davies. *St. Dunstan's Review* (191 Old Marylebone Road, London NW1 5QN, England), No. 648, January 1974, pp. 8-12. Interview with Welshman Llew Davies, a totally blind physiotherapist and rugby enthusiast.

Best Max Carrados Detective Stories, by Ernest Bramah. Selected with an introduction by E. F. Bleiler. New York, Dover Publications, Inc. (Order from Peter Smith, 6 Lexington Avenue, Gloucester, Massachusetts 01930), 1972, 244p. $5.00. Reprinting of selected short stories featuring blind detective Max Carrados, originally published 1914 to 1927.

The Building That Reaches People, by Bob Kleinfelder. *The Lion* (Lions International, York & Cermak Roads, Oak Brook, Illinois 60521), Vol. 56, No. 8, February 1974, pp. 14-17. A modern, two-level building constructed by the Lions of Mississippi houses the new Library for the Blind and Physically Handicapped in Jackson, Mississippi. Prior to the opening of the building in October 1973, reading materials had been handled through the Regional Library in Baton Rouge, Louisiana.

A Week of Summer Fun. *The Lion* (see address above), Vol. 56, No. 9, March 1974, pp. 26-29. The Stone Harbor Lions of New Jersey have established a non-profit corporation to support the Helen V. Diller Vacation Home for Blind Children. Opened in 1972, the home in Avalon, New Jersey entertains 20 blind youngsters each week during the summer.

Hey, Stevie Wonder, How's Your Bad Self? by Burr Snider. *Esquire* (65 E. South Water Street, Chicago, Illinois 60601), Vol. 81, No. 4, April 1974, pp. 100-102, 217-218, 220, 222. An interview with rock star Stevie Wonder.

Med Student with Great Expectations. *Medical World News* (1221 Avenue of the Americas, New York, New York 10020), Vol. 15, No. 6, February 8, 1974, pp. 71-72. David W. Hartman, a sophomore in medical school at Temple University in Philadelphia has been totally blind since the age of eight. He was admitted to the medical school on an experimental basis in the spring of 1972 and hopes eventually to obtain a residency in psychiatry.

The Case for the Partially Sighted Syndrome, by Win Bann. *The Chronicle* (Royal New Zealand Foundation for the Blind, Private Bag, Newmarket, Auckland, New Zealand), Vol. 11, No. 13, December 1973, pp. 7-10. The head of the Adult Rehabilitation Unit of the Royal New Zealand Foundation for the Blind discusses the special problems that occur in mobility and orientation programs for the partially sighted.

Paydays for Multi-Handicapped Blind—Pittsburgh's Goal, by Betty Harvey. *The Seer* (Pennsylvania Association for the Blind, 2843 N. Front Street, Harrisburg, Pennsylvania 17110), Vol. 44, No. 3, Fall 1973, pp. 14-17. Article reprinted from the March 1973 issue of *The Smaller Manufacturer* about the efforts of the Pittsburgh Blind Association to provide new work opportunities.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Agency Administration

Diabetic Youths and Their Families, by Melva Smith. *Children Today.* Children's Bureau, Office of Child Development, Office of Human Development. (Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Vol. 3, No. 1, January-February 1974, pp. 28-29, 35. Describes the



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goals and activities of the Diabetic Youth and Family Program of Wichita, Kansas, of which the author is coordinator.

The Future Outlook for Delivery of Human Services, by Frank C. Carlucci. *Health Services Reports* U.S. Department of Health, Education, and Welfare (Tearsheet available from Special Assistant to the Under Secretary, Room 5271, HEW North, 330 Independence Avenue, S. W. Washington, D.C. 20201), Vol. 88, No. 10, December 1973, pp. 891-893. Based on remarks made before the National Association of Counties, Dallas, Texas, July 1973.

Testimony of Bradley R. Straatsma, M.D., Director, Jules Stein Eye Institute, University of California, Los Angeles, California, to the Labor-Health, Education and Welfare Subcommittee on Appropriations of the United States Senate, Senator Warren G. Magnuson, Washington, Chairman, July 26, 1973. *American Journal of Ophthalmology,* Ophthalmic Publishing Company (233 E. Ontario Street, Suite 140, Chicago, Illinois 60611) Vol. 76, No. 3, part 1, September, 1973, pp. 87-92.

Architecture

Physiological and Behavioral Characteristics of the Elderly: A Basis for Design Criteria for Interior Space and Furnishings, by Bettyann Raschko. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 W. Ogden Avenue, Chicago, Illinois 60612), Vol. 35, No. 1, January 1974, pp. 10-15, 31. "The task is to consider how interior space and furnishings can contribute to the well-being of the elderly in their everyday environment and assist them to a more independent existence."

Directories, Catalogs, Lists

1973 Publications Catalog. Center for a Voluntary Society (1785 Massachusetts Avenue, N. W., Washington, D.C. 20036). Lists materials on volunteerism and where they are available. Includes books, occasional papers, reprints, training tools, journals, conference reports, and bibliographies.

1974-75 Catalog of Audio-Visual Materials. Anti-Defamation League of B'nai B'rith (315 Lexington Avenue, New York, New York 10016). Subject Listings: For Children; Anti-Semitism; Black Studies; Civil Rights; Ethnic and Religious Minorities; Human Relations; Israel; Jews and Judaism; Prejudice; Race Relations; Teacher Training; and Totalitarianism & Extremism.

Behavioral Publications 1974 Catalog. Behavioral Publications (72 Fifth Avenue, New York, New York 10011). Recent publications listed by subject, and including Aging and Retirement; Behavior Modification, Child Care; College Students; Crises, Emergenices, and Suicide; Community Mental Health; Crime and Delinquency; Human Services; Industrial and Personnel Psychology; Measurement and Evaluation; Sex, Marriage and the Family; Social Work; and Thanatology.

Education

Retarded Pupils in the Mainstream—the Special Education of Educable Mentally Retarded Pupils in Regular Classes, by Jack W. Birch. The Council for Exceptional Children (1920 Association Drive, Reston, Virginia 22091), 1974. $2.50. Profiles six school districts across the nation where mainstreaming has been adopted.

Medical Sciences

Iris Atrophy in Hemoglobin SC Disease, by Jerre Chambers, M.D., John Puglisi, M.D., Roman Kernitsky, M.D., and George N. Wise, M.D. *American Journal of Ophthalmology* (Ophthalmic Publishing Company (233 E. Ontario Street, Suite 1401, Chicago, Illinois 60611), Vol. 77, No. 2, February 1974, pp. 247-249.

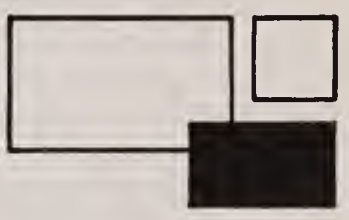
Pamphlets

Tell It Like It Isn't, a collection of humorous "tips for the edification, elucidation, and empathification of the blind and those who would feel with them." Available from Frank Kells, Editor, 5534 W. Granada Rd., Phoenix, Arizona 85035.

Statistical Surveys

Chronic Conditions and Impairments of Nursing Home Residents: United States—1969. National Center for Health Statistics, Health Services and Mental Health Administration, U.S. Public Health Service. *Vital and Health Statistics* (available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Series 12, No. 22, DHEW Publication No. (HRA) 74-1707, December 1973, iv + 57 p. $0.85. Based on data Collected from June through August 1969.

In Brief



■ The Newsletter of the President's Committee on Employment of the Handicapped lists the following agencies as specializing in tours for the handicapped: Evergreen Travel Service, 19429 44th St., Lynwood, Washington 98036; Rambling Tours, Inc., P.O. Box 1304, Hallandale, Florida 33009; Flying Wheels Tours, P.O. Box 382, Owantonna, Minnesota 55060; Handy-Cap Horizons, 3250 East Loretta Dr., Indianapolis, Indiana 46227; and Bridge Travel Service, 832 East Bridge Ave, Delray Beach, Florida 33444; Pan American, 1219 Main Street, Houston, Texas 77002 and the Travel Information Center, Moss Rehabilitation Hospital, 12th Street and Tabor Rd., Philadelphia, Pennsylvania 19141. The Newsletter goes on to say that for blind persons experiencing trouble with the commerical airlines while on a trip, a "Hot line" has been set up by the Civil Aeronautics Board in Washington, D.C. The number is 202-382-7735, and operates from 8:30 a.m. (EDT) to 5:30, Monday through Friday.

■ Information Research Utilization Center (I.R.U.C.), a national clearing house on information dealing with physical education and recreation for the handicapped recently announced the availability of a new publication listing federal program in support of recreation for the handicapped. Each program is described in terms of specific types of assistance provided, purposes for which assistance is available, who can apply, how to apply, and federal officers to contact for additional information about the program. To obtain a copy of this new publication write: A Catalog of Federal Assistance Relating to the Handicapped, IRUC, c/o AAHPER, 1201 16th Street, N.W., Washington, D.C. 20036.

■ The Albany Association of the Blind has a new product, fluorescent/reflective armbands. The idea for the bands grew out of a need to give greater visibility to children walking to school in the new daylight time early hours. The bands, which stand out under both nighttime and daytime conditions are made from previously discarded bits of fluorescent safety vests made at the Association. Although initiated to provide safety for school children the armband can be worn for safety by joggers, bicyclists, hikers, and othes. The reflective strip can be seen in a car's headlights at a distance several times normal visibility. Local papers, the *Albany Times-Union* and the *Knickerbocker News-Union Star* have been distributing the bands upon mailed request to area residents at a non-profit cost of $0.50.

■ Two new booklets, *The NBA Book Bank* and *NBA, Advancing Volunteer Service for Blind People* are available free from the National Braille Association, Inc., 85 Godwin Avenue, Midland Park, New Jersey 07423. The book bank pamphlet is available in print and in braille.

■ A new film, *Cataracts*, available from the National Society for the Prevention of Blindness is part of the Society's intensive campaign to prevent cataract blindness. The film features actress Sylvia Sidney, who tells her personal story of "denial, delay and fears before she could admit her vision loss from cataract and accept the need for surgery." The 13½ minute color film is available in 16mm prints or 8mm cassettes, on loan or for purchase. For further information write to the National Society for the Prevention of Blindness, Inc., 79 Madison Avenue, New York, New York 10016.

■ The National Health Council (NHC) has received notification of grant awards for $250,000 from the W.K. Kellogg Foundation and $100,000 from the Commonwealth Fund to support the NHC's three-year reorganization program. These grants are in addition to the $250,000 grant previously announced which the NHC received from the Robert Wood Johnson Foundation. The reorganization program is intended to enable the NHC more effectively to strengthen private-sector organizations and agencies working in health.

■ The Giant City State Park Interpretive Center recently launched a program designed for visually handicapped persons who are bird enthusiasts. Blind students from Southern Illinois University and blind residents of Carbondale were invited to participate in an informative class at the state park. During informal lectures the group was allowed to hold the birds in order to experience the heartbeat. The birds were identified by braille bands. The Center also conducted a group outing to Crab Orchard Refuge where 60,000 Canada geese come each year to feed for the winter. Volunteers from the Southern Illinois Observatory Committee of the Southern Illinois Audubon Society assisted in class instruction and in tour activities. Plans are being made to transcribe into braille lists of birds found in the area during each season, and to tape the more common bird songs.

■ Aspects of teaching which school officials feared would be problem areas for blind teachers actually present little difficulty for them. This finding, based on a survey of blind teachers employed in eight New York and 24 California schools, is part of a study presented in *Administrative Considerations in the Employment of Blind Teachers*. The book, by Dr. Edward F. Huntington is available at $1.50 per copy from the New York Association for the Blind, 111 East 59 Street, New York, New York 10022.

Appointments

■ National Health Council: **Robert C. Long, M.D.,** president.

■ Seeing Eye, Inc., Morristown, NWEW Jersey: **Irving H. Leopold,** M.D., trustee

Awards

■ National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, 1974 Award (for outstanding leadership in improving standards of service to blind persons nationwide): **J. Arthur Johnson,** executive director, Columbia Lighthouse for the Blind, Washington, D.C.; and **J. Kenneth Cozier,** Cleveland Industrialist.

■ Dialogue Publications Public Service Award: **William T. Snyder,** Baltimore businessman and civic leader.

■ American Association for Health, Physical Education, and Recreation, the Anderson Award for 1974: **Charles Buell,** Long Beach Unified School District, resource teacher for visually handicapped children.

Coming Events

June 2-5 National Rehabilitation Association, Western Regional Conference, Spokane.

June 2-7 American Association of Mental Deficiency, 98th Annual Meeting, Toronto.

June 9-14 Special Libraries Association, Toronto.

June 16-24 World Conference of Physical Therapy, Montreal.

June 17-28 American Home Economics Association, Atlantic City, New Jersey.

June 22-23 Conference on the Deaf-Blind, San Francisco.

June 23-27 Association for Education of the Visually Handicapped, San Francisco.

June 24-28 Second International Symposium on Sex Education, Tel Aviv, Israel.

July 2-5 National Federation of the Blind, Annual Convention, Chicago.

July 26—August 2 International Conference on the Education of the Deaf-Blind, Conover, Shropshire, England.

July 28—August 2 International Association of Applied Psychology, 18th International Congress, Montreal.

August 5-16 Rapid Reading Workshop, Culver-Stockton College, Canton, Missouri.

August 6-10 Blinded Veterans Association, National Convention, Denver.

August 7-16 World Council for the Welfare of the Blind, General Assembly, Sao Paulo, Brazil.

October 30-November 1 American Association of Workers for the Blind, Mid-Atlantic Region Convention, Philadelphia.

Classified Listings

Rates: Non-display—$2.00 per line (minimum: $10.00); Display—$13.00 per column inch (minimum: one inch). Anonymous, box-numbered ads are only accepted for personnel listings. Advertising is subject to editorial approval. A rate and information card is available on request. All correspondence should be directed to the Classified Advertising Department, New Outlook for the Blind, *15 West 16th Street, New York, N.Y. 10011.*

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Instruments, Recreation Equip. Sound or print catalog on request. Science for the Blind Products, Bala-Cynwyd, Pa. 19004.

CATALOGS

Optacon Catalog—products and services—a complete listing of Optacon Systems, Accessories, Training Course, and Training Material prices. Products are also pictured and described in detail. Write Telesensory Systems, Inc., 2626 Hanover Street, Palo Alto, California 94304.

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THE NEW Outlook FOR THE BLIND



September 1974 Volume 68 Number 7

Orientation for Blind Persons: Clear Path Indicator or Environmental Sensor
Leslie Kay, Ph.D.

A Handbell Choir for Blind Students
Mary Francis Lewis

Rhymes, Songs, Records, and Stories: Language Learning Experiences for Preschool Blind Children
Joan W. Blos

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Articles

289 Orientation for Blind Persons: Clear Path Indicator or Environmental Sensor
Leslie Kay, Ph.D.

297 A Handbell Choir for Blind Students
Mary Francis Lewis

300 Rhymes, Songs, Records, and Stories: Language Learning Experiences for Preschool Blind Children
Joan W. Blos

308 Authoritarianism, Attitudes Toward Blindness, and Managers: Implications for the Employment of Blind Persons
Larry D. Baker, D.B.A.

315 Deaf-Blind Children in Canada
Marg Csapa, Ph.D., and Bryan R. Clarke, Ph.D.

Departments

320 Hindsight—M. Robert Barnett

322 Comment—Helen Elias

323 Review—*Listening for the Visually Impaired*

324 From the Field—Vignettes of Blinded Veterans of the Vietnam War

327 Letters to the Editor

329 Current Literature

335 In Brief

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Orientation for Blind Persons: Clear Path Indicator or Environmental Sensor

LESLIE KAY, Ph.D.

Professor Kay is head of the Department of Electrical Engineering, University of Canterbury, Christchurch, New Zealand.

ABSTRACT: The skills required to walk with ease and confidence in a variety of environments are quite complex and involve detailed sensory information. The aim of sensory aids for blind persons that indicate the presence or absence of obstructions in the travel path is compared with the aim of possible devices that would provide more detailed information about various aspects of the environment. The "reading" of the environment to provide cues for orientation is compared, by way of analogy, with the formation of sentences from words through the use of the rules of syntax and grammar.

It has often been argued that blind people need only an indication that the travel path ahead is clear and the aesthetic value of being able to sense, in some detail, what is around one as the path is travelled is a luxury not every blind person wants, or can afford to procure. Many blind people hold this opinion quite strongly. Everyone agrees they do need an ability to travel on foot from place to place with comparable ease to what is experienced by a normally sighted person.

Defining Mobility

☐ A dangerous fallacy exists here which may well deprive blind people of what must surely be a basic right, mobility defined as, "walking in public places with a physical ease and mental confidence which allows one to blend naturally with one's fellow pedestrians." The blind person should at least have the means to be peripatetic within the limits imposed by current engineering knowledge and know-how; because few understand what these limits are, however, many varied views are being expressed both by sighted and blind people.

Sensing the surrounding environment

It will be argued here that an ability to *sense the surrounding environment* is a prerequisite to peripatetism, involving mobility, orientation, and navigation. Any aesthetic value which may accrue from such an ability is entirely secondary to the primary task of being able to walk about freely.

Because of the limited meaning normally applied to mobility (capable of movement), I again wish to define mobility used here as *encompassing those skills and knowledge which enable one to walk unobtrusively among one's fellow men*. Deeply involved with this physical process is the means for *orientation* used in its conventional sense; it will be seen that this aspect of mobility is what we are currently most concerned about.

☐ It may of course be argued by some that mobility for the blind does not imply, or require, that the blind traveller blend naturally with his fellow pedestrians; merely an ability to get from place A to place B safely is all the skill that need be acquired. Some blind people are convinced that they already possess this skill through *self-teaching* without the use of aids, and do not accept the need for devices. They forget, however, that even the short cane is an aid. Unfortunately, they cannot see themselves while they hazardously and hesitatingly negotiate their environment; their stress is a measure of their courage, not their competence. The uneasiness they often create among the sighted helps to maintain in this majority group the age-old feeling of helpless sympathy. Sighted people who can support such arguments have not yet been exposed to the possibilities of blind travel which now exist. Few appreciate the long-term impact such travel can have on the relationship between the sighted and the blind which at present constitutes a significant handicap to greater employment possibilities.

Mobility as a complex skill

When we discuss mobility we are in fact giving some thought to probably *the* most complex skill man can acquire. Because we each develop an ability to be peripatetic through the natural use of our motor system and our numerous sensory inputs, we normally give little thought to how we move about. Certainly, the average person does not consider it to be a *skill*. But when deprived of vision through blindness or a blindfold, we all find that this skill has deteriorated to an almost non-existent level. Congenitally blind persons never do develop it very far of their own accord.

It would be doing ourselves an injustice to suggest that mobility as we know it is a relatively simple process which is easily acquired; yet this is what is *implied* when some say that the blind traveller needs only a simple form of indicator (go/no go device) that the path ahead is clear. We all perform as very complex, "intelligent," biological systems, and the motive power output of the body is controlled through the feedback of sensory information it receives from the environment. *The more complex the task, the more detailed the information the sensory system needs to receive.* If the process were simple, mobile robots would have been built long ago. Were we to dig deeply into the reasoning behind the simple concept of a sensory aid, I believe we would find that underlying it is an excessive confidence in man's "intelligence" to help him solve his problems. But if the information input is inadequate, man cannot solve the problem, no matter how "intelligent" he is, even if artificially aided.

Detailed sensory information required

Control Systems

☐ All control systems have a *goal*, and errors in achieving this are used to alter the output in such a way as to reduce the errors. The Boeing 747 can land very smoothly without the "interference" of a pilot, provided an automatic landing system is operating at the airport. The goal then is well defined in the coded signals transmitted from the air field and errors are readily corrected by the plane's automatic control system. If, instead, there were no signals transmitted from the airport, and the automatic landing system had to sense the approaching environment itself, it would need a very much more complex sensory system than has been devised so far, and it would need to possess some form of "intelligence" in order to interpret the information it received.

Man operates this way—he does not normally require signals generated specially for his benefit in order to *orientate* himself. He takes in all the environmental information and intelligently processes it to suit his needs. (I think we can disregard such things as street signs as influencing the argument.) It is a fallacy, however, to think that man's intelligence can compensate entirely for sensory loss by a process of fitting the remaining sensory inputs into a complex memory pattern, previously learned, so as to stimulate a percept of the *whole* environment previously perceived. If he cannot adequately perceive his *goal* and correct his errors, his motor output is no longer controlled—it hunts. That is, it searches about and, of course, the unaided blind person is often seen doing just this.

Compensating for sensory loss

☐ The idea that the blind person needs only an indicator to say the path is clear probably exists because so many individuals have demonstrated an immense adaptability to changed circumstances. When it is thought that all the technologist need then provide is a means to avoid obstructions in the path, it has been tacitly assumed that the blind person already *knows where his path is*. That he is *sometimes* able to sense his environment to the extent that he is aware, say, that there is a wall on the right and he knows that the desired route is straight ahead, is testimony to his adaptability. But, avoiding an obstruction in the travel path, requires *also* that the person (control system) determine a new travel course and, on passing the obstruction, re-establish the old travel course. This can be done only by sensing the wall (or whatever happens to be the boundary) *and* the obstructing object, *and* paying attention to whatever additional information (such as noise) is available which indicates the direction of the route.

The Natural Senses

The natural sense of hearing plays an important role in this; indeed, the deaf-blind person is unable to travel alone. The tactile sense is often thought to be more effective by using information transmitted through the feet and through the hand extended by means of a cane. The long-cane traveller uses *all* the remaining sensory inputs to the full. The hearing is used mainly for monitoring the changing pattern of environmental sounds to determine the direction of travel and to warn of impending danger. Essentially this is long range information and is of limited value for the control of the body through the immediate surroundings.

Full use of remaining senses

For the cane to be of value in providing this control information, it must make contact with things other than the ground. Anticipation of cane contact may induce unacceptable stress in the traveller and many trained cane users are unable to handle this; regression in cane use then follows. Obstructions in the pathway can be avoided only by making cane contact with them, ascertaining the new safe course, and then re-establishing the old one later. This may not always be easy. It is thought that warning of an obstruction before making cane contact will be a means of reducing the travel stress, but it is evident that the remaining senses, *unaided*, are *inadequate* for the kind of mobility which blind people should be able to enjoy.

Aid to remaining senses

☐ Our ready ability to perceive our environment through vision, hearing, and the sense of touch, disguises the information we *need* for peripatetic travel.

The Control System Functions

Anyone driving a car who has become startlingly conscious of nearing a destination (even perhaps the wrong one), without having realized that a section of the route had been passed, will appreciate that very little detail of the surrounding environment, as it was being passed, provided actual travel information. Certainly, full attention could not have been on the task at the time, and therefore the information was not being processed at a conscious level. We seek then to discover the minimum environmental information necessary for peripatetic mobility. To this end, it is suggested that there are three basic skills which have to be used in the variety of situations one is constantly encountering. These skills are essentially control functions of the body, involving input information about the environment and the goal from which errors in movement may be detected and used to modify the motor output. The skills may be ordered according to difficulty: a) Walk parallel to a guide line (railings, fence, shop fronts, etc.); b) Walk perpendicular to objects (approaching a specific thing or place); and c) Negotiate an obstruction (fixed or moving) in the path, i.e., change the direction of travel in a controlled manner so as to avoid the obstruction and re-establish the original course.

Three basic skills

The control system can only use information which provides it with the coordinates of the object space. While these may be interpreted as a "picture" by the "intelligence" of the system, they must ultimately involve distance, direction, and their derivatives, presented in some form which initially may not even be familiar. This seems to be basic to any form of controlled spatial movement. Just how our minds interpret the input information is not an issue here, but in order to use this information at all, in the real environment, we must possess an ability to discriminate between the "wanted" and the "unwanted."

Coordinates of object space

Thus, we need to sense the environment to this extent at least. A blind traveller using his ears, feet, and perhaps a short cane, puts up a poor performance compared with a sighted traveller. His ability to sense the surrounding environment is too limited and his "intelligent" control system has inadequate input information for skillfully controlled motor output through the limbs.

Aided Mobility—The Long Cane

☐ Mention has already been made of the long cane. When it was first introduced during the late 1940's, considerable hostility among blind persons was generated. They felt their self-image would suffer and the sighted public would be at risk, having a long cane cleave a clear pathway through them. Nearly three decades later, it is almost universally accepted as an important aid to mobility and, in many parts of the world, the proponents of its use view it as the primary aid.

Obstacle detector

Properly used, the long cane will provide the blind person with information about the terrain where next each foot is about to be placed. Ideally, the cane just touches the ground on the spot where the foot is about to be placed and, using a sliding technique, the surface structure of the ground can be sensed through the vibrations set up in the shaft. A drop in the ground, due to a curb, etc., may be sensed by the slight angular downward change in the cane handle; ascending steps or an up curb produce an unmistakably abrupt change in cane movement. The device is not normally classed as an obstacle detector, but it

operates as one, through making contact with an obstruction in the pathway. The user may suddenly have to change his momentum so as to avoid colliding with it.

Lazy adaptation

It has been observed that once a travel pattern has been established through extended use of certain routes, the blind person does not seem to continue using the cane in the well-defined technique learned during the lengthy training period. This may be due entirely to lazy adaptation by the human to a physically "relaxed" technique. Even the most experienced travellers seem to regress in their use of the cane in this respect, and many have been seen to overstep curbs. It is evident, nevertheless, that they continue to gain much information from the easy manipulation of the cane tip; each seems to develop his own special technique for *sensing the environment* and gathering information which is not available through the sense of hearing or the feet.

Auditory cues

Without the use of auditory cues, however, the cane is virtually useless; with good and knowledgeable use of hearing, the cane adds significantly to man's ability to be mobile without vision. But neither provide sufficient information about the environment for the motor control system of the body to operate smoothly and without stress and for the person to move with observable confidence, such that he no longer exhibits deviant peripatetic behavior—thus escaping notice. The position of silent objects can be determined through the use of echolocation by a very few people, and only then with low probability; the cane must make contact with an object in order to verify its presence. This is not, in general, good enough for the three basic skills to be displayed in the majority of strange situations where a priori information, as a sequence of events, is not available to the same extent as in familiar places.

The Clear Path Indicator

☐ During the early stages of sensory aid development, attention was almost exclusively centered on obstacle detectors. This seemed to be the need of the blind traveller, since most of his mobility problems appeared to be related to collision with objects. During the late 60's, however, the concept of the obstacle detector was found to be better expressed as "seeking a clear path"—the path from which the traveller received no sensory stimulus and could relax (John Dupress, J.A. Leonard). This change in emphasis probably came about through the improved communication between those concerned with the practice of long cane travel and those concerned with device design and evaluation. It also seemed to be a compromise between the simple obstacle detector idea and the apparently complicated environmental sensor concept. There was also the possibility that the use of a device providing this facility would be relatively easy to learn.

"Clear path" defined

The term *clear path indicator* does, however, need examination, for it is not obvious that all who use it understand it to mean the same thing. A "path" possesses direction and has two boundaries. To be "clear," there must be no obstruction to travel *between* these boundaries. Any object outside the boundaries should produce either no stimulus or one which can clearly be disregarded. For example, a footpath at the side of a roadway will be bounded on one side by a curb and on the other side by, perhaps, some form of fencing or wall. Objects behind the fence or wall may be obscured from the field of view of a

sensory aid, but objects on or beyond the curb may come into the field of "view" of the device as the traveller walks along the pathway. A lamp post or a parked car should produce a stimulus from a sensory aid which must be *readily recognized as being irrelevant to the clear path being sought.*

The sensory aid must therefore indicate in some way the distance and the direction of an object so that this can be *placed* by the perceptual process of the traveller either within the travel path, or outside it, by using appropriate input spatial coordinates. Before this can be done, however, the spatial relationship of the boundaries of the path relative to the traveller also needs to be perceived. Otherwise, how does he relate the object to the boundaries?

Establishment of an adequate percept

It follows from this, that the traveller must be able to discriminate between the boundaries and objects in the pathway. There are various ways in which this can be made possible, but all involve the establishment of an adequate percept—which must have a cognitive pattern—and to which a prior sequence of events is essential. *In fact, the latter may be the primary basis upon which a travel pattern is established, rather than detail perceived at any instant.* In attempting to perceive his environment as comprising two boundaries and a number of objects which lie generally on (or outside) the boundaries, but which may occasionally appear spatially at random inside the boundaries, man is faced with a complex perceptual task. In terms of what we normally perceive visually, this task may seem to be very simple, but in terms of what we need to perceive through a new sensory aid, it is far from trivial. This is because the process of learning to perceive space through some new medium is very strange and new percepts can be learned only through a prolonged locomotive experience.

The Central Issue

☐ The real issue is this: can man perceive his travel path as being clear *without sensing his environment?* If the argument presented here is convincing, the answer is simply—No. The clear path indicator, no matter how it is defined, becomes an aid to environmental sensing and must be considered to be an environmental sensor. On the other hand, if man can sense his environment without an aid so that he can perceive the boundaries of his travel path, the so-called clear path indicator—if still needed—is required only to be an obstacle detector, which covers only the path between the boundaries. But we know that a blind person does not have an adequate ability to sense his environment, and anything he may use resembling an obstacle detector is thus an inadequate sensory aid. This, of course, is not to say that such a device is useless.

It may then be concluded that clear path indication could be a desirable feature of a sensory aid, but for an aid to be used as such, it must have the *potential* for sensing the environment at any instant; the user interprets the information available at its output as and when required according to his needs.

The Environmental Sensor

☐ It is a relatively easy matter to discuss the clear path thought to be required by the blind traveller, since in essence this is a trivial matter; but once we have to consider environmental sensing, we are faced with an ill-defined concept which has as its upper limit the vision enjoyed by the normally sighted person. *Just what information does man need in order to perceive his environment adequately for peripatetic travel?* Given the basic skills of mobility in the

form of control functions, these have to be transferred to an "infinite" variety of situations. While the needs of each individual may be limited through cognitive and socio-economic circumstances and become well defined over a period of time, there are, in general, a great variety of environments in which blind people wish to travel; the situations for which sensory aids must be suitable, therefore, seem limitless.

Analogy to speaking a language

An analogy may be drawn between sensing the environment and speaking a language—or in general terms, verbal communication. Very considerable information can be conveyed in conversation with only a few words and phrases; in addition there are some basic forms of communication which seem to be common to all races. In a similar way, there are basic features of our man-made environment which we find easy to understand no matter where we travel in the civilized world. As communication has become more and more sophisticated with our advancing culture, so also has the environment through architectural design, urban planning, and the layout of cities. A greater vocabulary and a complex grammatical structure was needed to convey abstract ideas; while to observe and appreciate the man-made environment, greater spatial detail in the sensory inputs has become necessary. In fact, the environment may be said to have assumed a grammatical structure with syntactic relationships between the large vocabulary of objects from which it is formed. Local culture varies the detail, but many features are universal.

Syntactic relationships

Just as those of us who are vocal are able to construct grammatically correct sentences of words spontaneously, those of us who are sighted are able to perceive a new environment at a glance, provided this fits the rules which we have come to accept. Objects commonly found in our surroundings have well established relationships with each other. An incorrect syntactic arrangement of spatial elements, such as "the *curb* is on the left side of the *path* with the *wall* on the right and the *roadway* is beyond it," is no different in principle from the ungrammatical sentence "On cat the sat mat." The syntactic relationships are simply unrealistic. It will no doubt be noted that this sentence, when correctly constructed, also represents part of the physical environment. A relationship between language and environment does in fact seem to be basic and is not merely trivial. When we try to construct an environment through means other than vision, we need to know the rules of construction in a way which did not seem necessary with vision. A study of language structure may make this easier to understand and lead to quicker learning by blind persons.

Recognizing "words"; constructing "sentences"

An environmental sensor to be used to aid the remaining senses of the blind person must permit the user to recognize the "words" of the environmental vocabulary and their syntactic relationships; otherwise he will be unable to construct the simple "sentences" of his surroundings. Where the need for environmental information is great, the sensory aid must be capable of conveying considerable detail about the environment; where only elementary information is required, the sensory aid could, by comparison, be simple in operation and convey little detail; like vision, however, the former more sophisticated system should serve both purposes unpredictably as required, by the controlling intelligence of the mind seeking the information.

Conclusion

☐ This paper was stimulated by the comment that some blind people use the "Binaural Sensory Aid" only as a clear path indicator. It appears from the discussion on the relative merits of clear path indicators and environmental sensors, that they could easily believe this is how the aid was being used much of the time. The view that environmental sensing is restricted only to the aesthetic value of knowing in some detail what is around as one progresses along a route, leads to the assumption that only a clear path is sought by many *disinterested* blind travellers. This, however, does not take into account the necessity of knowing where the boundaries of the path are, and possessing an ability to relate these to any obstruction. It is necessary to sense the environment to this degree at least, and while "sensing" the boundaries (paying attention to their presence) at all times may not be vital to good travel, the *knowledge* of where they are needs monitoring periodically. A clear path indicator will not do this unless it can be used at will as an environmental sensor. The degree of attention given to the stimulus received determines how the mind sees it at the time. Perhaps blind people have come to the conclusion reached by the sighted: "the eye does not always see what is before it."

Sensory aids

Other sensory aids to mobility can also be viewed as environmental sensors to some degree at least. The long cane has already been shown to be one; laser beams, infrared devices, and ultrasonic sonars, providing elementary information about the environment, also fall into this category if they are shown to improve an individual user's orientation. They are otherwise obstacle detectors and, in terms of the control information they provide the traveller, are of little value. Vision substitution systems, employing optical images with a very limited number of picture elements, face the problem of resolution. They must provide the capability for discriminating between both near and far objects which must appear in an image of three-dimensional space. This seems to be a requirement for mobility which is not presented by the tasks of reading or recognizing single objects placed against a signal-free background.

The use of an aid

This paper has in no way attempted to determine the requirements of an environmental sensor which will aid orientation in blind persons. The difference between the clear path indicator and the environmental sensor is seen to be one of personal attention at the time; the effort required in their use may not be—as many seem to think—proportional to the sensory information they provide.

Next Month in the New Outlook

The October issue of the *New Outlook* will include articles on games for partially seeing children, the development of a listening curriculum, and teaching multiply handicapped blind persons in a state hospital.

A Handbell Choir for Blind Students

MARY FRANCIS LEWIS

Ms. Lewis is piano teacher and choir director, Blind Department, Colorado School for the Deaf and the Blind, Colorado Springs.

ABSTRACT: Handbell ringing can be an enjoyable and educational experience for blind and visually handicapped students. Ringers should learn their parts from printed music or from braille music prepared according to the system of notation suggested here. The best ringers, those who read well, should be placed in the treble area, where music is most complex. Each ringer should be assigned a frequently rung bell and an infrequently rung bell so that he can easily ring with one hand and read with the other. Thus, handbell choirs composed of blind and visually handicapped ringers can be independently functioning units and can ring a number of pieces.

Three years ago, the Blind Department of the Colorado School for the Deaf and the Blind received a memorial gift of two octaves of Schulmerich handbells. Bell groups were organized in which the three sighted music teachers rang with several sharp-eared students who were taught their parts by rote. When two of the music teachers retired and the third moved away the same year, I was hired as piano teacher and choir director. Since I had had some experience with handbells while working as a church musician, I was asked to take over this phase of the music program as well. Since I was at the time the only music teacher on the staff, bell groups would have to consist entirely of students.

Problems

☐ I faced several problems. Precision is a crucial factor in handbell ringing. Getting sighted youngsters to ring as a unit by watching a director is a difficult task; would it be impossible to accomplish this with a group who could not see a conductor? Second, though the music reading skills of sighted ringers may be poor, most can at least read rhythms, and all can be taught to locate their bells on the staff. However, braille music notation is somewhat cumbersome, and most of the blind students I met had had no experience with it.

Notation system needed

I ruled out the possibility of teaching each member his part by rote and began the task of creating a system of braille notation for handbells. To my knowledge, no such system existed. Since printed handbell music resembles piano music in appearance, I began by studying braille notation for the piano, and then adapted my findings to the unique features of handbells.

Adaptation of Notation System

☐ The real problem in braille music is writing the vertical aspect of music, the chord, in a notation system that is essentially horizontal in nature. This is a critical problem in handbell notation, since chords are so important in music for this medium. In braille piano notation, the chord is written by notation with the lowest sounding note followed by the symbol for each interval to be sounded above it. This method is satisfactory, since one player realizes

the entire chord. In a bell choir, however, each ringer has only a few bells to handle. This means that out of an entire piece, he rings only a small percentage of the total number of pitches. In any chord, he will likely ring only one of the notes. If the piano style of notation were used for handbells, the ringer would have to calculate quickly the names of all notes designated by the interval symbols and then ring if his bell were among them. In order to have a choir, each member would have to learn the symbols for the names of all notes, including the different rhythmic values; the symbols for all of the intervals; and the entire theory of intervals. The length of time needed to gain proficiency would be prohibitive. I have taken a different tack.

One line per octave

In order to avoid confusion between the two A's, two B's, etc., in our two-octave handbell set, each octave occupies a separate line of braille. The "G4" line contains music for handbells G4 through F#5. The "G5" line contains music for G5 through G6. Only G6 needs an octave sign to distinguish it. The G4 or G5 designation is placed at the beginning of each new line of music. By using C4, C5, and C6 lines, this method can be adapted to three octave sets. In addition to elimination of octave marks, this system often splits chords so that only a few chord tones must be written in either line, further simplifying the notation. Each ringer is assigned bells in only one octave, so that he reads one line of braille at a time. Using conventional braille music notation, I then write out the part for each octave in bar-over-bar form. In this system, it does not matter what function a note has, be it melody or accompaniment. It is placed in one line or the other solely on the basis of its pitch. When all notes pass into one octave, the other octave part contains the appropriate rests. It is not feasible to write bell music according to function or "parts." First, bell music, unlike choral music, is seldom written with strict and identifiable soprano, alto, tenor, and bass lines. Second, though bell music often contains a melody with an accompaniment, the same bell may be used in both melody and accompaniment at different points in the music, and it is impractical for a youngster to read two lines of braille and ring at the same time.

Chords

To indicate a chord in my system, I write in normal braille music fashion the symbol for the lowest note to be rung, followed by the symbol in *lowered* notation for each note sounding above it. It is assumed that all notes rung together have the same note value, as indicated by the key note, or lowest note of the group. In more complex handbell music, of course, this is not the case; it is then necessary to use in accord notation to simplify the measure. As mentioned above, only those chord tones found in an octave are written in the line for that octave. Often chords must be divided, part being written in each octave line. For the partially sighted handbell ringer, music is written in large notation, using specially prepared staff paper and a felt-tip pen. The print shop in our division for the deaf reproduces the music with maximum contrast to insure readability. Music in braille is prepared on a braillewriter and reproduced on a thermoform machine. The music is kept in booklet form.

Assigning Bells

☐ Placement of ringers and assignment of bells is vital to the success of any handbell group. The best readers must be placed in the treble area, where music is more complicated and notation correspondingly complex. I have found most

success in placing in this area those partially sighted students who read print music well and those who have had experience reading braille piano music.

Two or three bells each

Another problem is distributing bells to students who must ring with one hand and read with the other. There are usually more bells than ringers in a choir, so that each person had to ring more than one bell. My solution was to assign each person a frequently-rung bell and an infrequently-rung bell. The natural or diatonic bells, of which there are 15 in a two-octave set, are the most frequently rung, so I have given one to each of my 12 ringers. The highest and lowest bells ring less frequently than those in the middle, so three end players handle the extra bells. The less-frequently rung bells are the chromatic ones, so the ringer's second bell is the sharp bell above his natural. Occasionally, a chromatic note in a piece will require that the ringer change bells briefly, putting down one and picking up the other. (Gloves are worn to prevent direct contact with the hands and the consequent fingerprints and tarnish.) Once the piece is learned and memorized, however, he simply holds one bell in each hand, making it possible to ring at a location other than in front of a table. Assigning the same bells to a student for all pieces eliminates searching for bells between numbers, with the risk of picking up a wrong bell. An occasional shift enables the ringer to learn more note names and gives him a change.

Practicing and Performing

☐ In learning a piece, each ringer studies the music section by section, determining the points at which his bell is to be sounded. To unify the rhythm during the first several run-throughs, I often slap my thigh to keep time. Such a beat is not offensive, as clapping is, and allows the ringers to hear themselves and each other. For rehearsal, the choir uses two eight-foot tables placed end to end and covered with a 16-foot piece of foam rubber (two inches thick); this protects the bells from the hard table top. A cloth cover keeps the bells from tearing the foam. Conventional bell choirs also perform in this formation. Our group generally plays with the school orchestra and choir. The youngsters therefore sit in their orchestra formation, with the choir or bell choir standing in place to perform. This creates a beautiful and unusually well-balanced sound.

Conclusions

☐ Several conclusions may be made at this early stage in my experiment. First, blind persons should ring handbells, because they can ring them and ring them well. Handbells are a viable option since they provide a non-choral team experience in music without the complexities of fingering, embouchure, and technique required by most orchestral and band instruments. Second, blind students should learn their parts from written music. To try to teach them music by rote makes as little sense as to teach them literature by reading them stories. The system which I have outlined seems to be a workable one. Most of the students have learned it easily. We are especially successful if we study the music prior to playing it for the first time. The system is simple enough to be understood, yet similar enough to traditional braille music notation that it does not conflict but rather aids children in general music reading skills. Printed music for each child greatly speeds the learning process of a bell choir. Each bell ringer has a unique part, and to try to teach each part individually would be folly, a waste of time. Finally, this can be an excellent way to begin a study of braille music notation.

Rhymes, Songs, Records, and Stories: Language Learning Experiences for Preschool Blind Children

ABSTRACT: Traditional nursery literature can play a significant role in developing the language skills of preschool blind children. Also the concept of order, an important element in these tales, is presented to them. Both the child and the adult respond to these stories and they may be shared by the child and his sighted siblings and friends. Sources of tales and songs are suggested, as are hints for presenting them and adapting them to real-life situations. The use of recorded materials, both tales and songs, is explored.

JOAN W. BLOS

Ms. Blos is with the Early Childhood Education Program, School of Education, University of Michigan, Ann Arbor.

From the time that he enters the first grade, the blind child depends on the words of others in unique and definite ways. For this youngster, even more than for his sighted schoolmates, the form as well as the substance of his learning will be provided by aurally-perceived verbal material. In a word: words.

Developing Language Skills

☐ To prosper in school and in ever-widening spheres of peer-group activities the blind or visually impaired child needs well-developed language skills for processing, organizing, and retaining content and dealing selectively with it. Yet the *preschool* blind child's opportunities to achieve such competencies are often severely restricted by direct and secondary effects of his handicap. As has been amply demonstrated—both by clinical and personal experience and by formal, designed research—in language learning as in other areas, the blind child's path to full attainment is arduous and slow (Fraiberg, Adelson, & Smith, 1969; Ulrich, 1973; Keller, 1903). And it is no wonder, then, that parents and their professional associates find they must be strong, patient, and resourceful as they seek to provide new and rewarding experiences capable of offering alternatives to visual input and maintaining motivation for discovery of the world. Recommendations for a home-based program comprised of "a definite but informal sequence of language-related activities" appeared recently (Blos, 1974); that paper represents but one of the practical applications of research conducted by Selma Fraiberg and her associates at the University of Michigan's Child Development Project from 1966 to 1972.* Primarily interested in the ego-development of the child born blind, but free of other handi-

Earlier paper

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caps, these meticulous and sensitive investigators were able to elucidate certain important aspects of the dilemma *and the potential* of the visually impaired child. With these findings available, it was not difficult to establish a rationale for using nursery rhymes and finger plays in support of language learning by preschool blind children. In that paper, we began with a recognition of the chaotic and unpredictable nature of a world perceived without vision, considered implications for cognitive development and language learning, and, by analysis of the role of orderliness, found substantial basis for using material whose very origin in an oral literature provides for ease of audition and supports memory. Specific suggestions were then given as to finger plays and games for naming the parts of the body that might be found useful. And it was promised that this same rationale would later be extended to the use of certain songs, tales, stories, and more of Mother Goose, as a means of stimulating interest in language and promoting language growth.

Traditional Nursery Literature

☐ Much of the traditional nursery literature derives from a time when illustrations were neither expected nor available, and only those items that "told well" survived as wholes, or in part (unpublished report for the Child Development Project, Department of Psychiatry, University of Michigan). Among the stylistic characteristics of these diminuitive representatives of the oral tradition were (a) minimum visual description, (b) maximum direct, explicit action, (c) presence of only a few clearly identified and role-differentiated characters, and (d) effective use of refrain to separate segments of stories ("I'll huff and I'll puff and I'll blow your house in!") or to identify characters ("Fee-fi-fo-fum, I smell the blood of an Englishman."). Also relevant are the happy-ever-after endings and that these stories tend to generate expectations and to reward appropriate guesses. With gratifying frequency, the hero figure *wins*.

Advantages

Two further comments about the use of traditional children's material in the present connection: first, it is a body of material to which children and grown-ups both relate in spontaneous ways; second, it provides the handicapped youngster with needed cultural community with his sighted siblings and friends. There is no way around the fact that the blind child will never know how Mickey Mouse looks. Neither will he ever see the Cookie Monster, or the cow-licked boys of McCloskey's *Homer Price*, or the mock-fierce beasts in Sendak's *Where the Wild Things Are*. But the story of the "Three Little Pigs" is his to enjoy. And be he blind or sighted, the wise child trembles at the approach of the giant after Jack has scaled the beanstalk and entered the great huge hall.

Order

The key to it all is order. In many, and often striking, aspects, the stylistic properties of traditional folk and nursery tales prove to be the reciprocals of the learning needs of the blind. Sherry Raynor, a specialist in the education of the young blind child, observes that mobility and language, being the two main ways in which a person moves out toward the world, are the two most important things for the young blind child to learn. Yet it is a long, long way from "show me your nosie"—recommended as language play in the first of these articles (Blos, 1974)—to "let down your golden hair, Rapunzel; let down your golden hair." How shall it be accomplished? Where shall we begin?

☐ It is perhaps fortunate that colorfully illustrated books, intended for young children to look at as well as to hear, are not the sole source of readings for the preschool years. There are, in fact, many anthologies and other compilations intended for parents' and teachers' shelves. And it is virtually assured that because these collections of read-aloud and play-along materials contain many items, arranged by topic or type and often age-level, they will appeal to many tastes. A good example is Johnson, Sickels, and Sayers' *Anthology of Children's Literature* (1970). In addition to a fine selection of nursery rhymes, poems, contemporary preschool stories, and folk and fairy tales, there are excerpts from longer works of fiction and biographical material for older children. The book includes extensive bibliographies in each area and ends with a helpful chapter on techniques of storytelling. A final comment: for quite their own reasons the book's compilers have sought out texts which stand on the merit of the words alone and have no need of pictures as visual supplement. Even when the section is "Picture Books," the stories *work* when told. As an alternative consider Mary Anne Nelson's *A Comparative Anthology of Children's Literature* (1973). Because it is newer, some of its selections are from more recent books; its attention to the multi-ethnic aspects of literature are appropriate and welcome.

Other sources

Somewhat different in nature, but often useful is the Opies' justifiably celebrated *Lore and Language of British School Children* (1959), a scholarly collection of rhymes, games, and play chants traditional for British children. Many of its selections are known to American children too; and one of the book's most attractive features are pages tracing the history and meaning of many of the rhymes and giving alternate versions. Carl Wither's *A Rocket in My Pocket* (1948) is less ambitious but very delightful as an anthology of rhymes, chants, and word games collected from American children. Perusal of these and similar books (e.g., Petersham, 1971—winner of the Caldecott Award) will remind most adults of loved but long-forgotten material; enough, most likely, for a comfortable, if small, repertoire. It is all one needs for a start. Then, when after-the-bath interest in "This Little Piggy" wanes, it will be possible to adapt the tune of "Here We Go 'Round the Mulberry Bush" to: "This is the way we rub you dry,/ Rub you dry, rub you dry./ This is the way we rub you dry/ Early (or late) on Wednesday (or Monday or whatever day it is)." Later, the same song can be made to fit occasions of putting on shoes, going downstairs, eating our lunch. Similarly, a song such as "Hey, Betty Martin!" may be made to fit many different rhythms. "Mary Wore a Red Dress" may be changed to fit a closetful—with color identification being changed to textures such as soft, fuzzy, woolen. The song can also be entirely refocussed by being, for example, used to comment on how "Alice sang a happy song, happy song, happy song . . . " or "Jeffrey climbed the kitchen stairs . . . all day long" (Seeger, 1948; Landeck, 1956). Parody is a good way of making many from one.

Adapting for the occasion

Songs

Books of songs should be frequently consulted resources during the early months as well as throughout the later childhood years. Books devoted to Little Bo-Peep and her friends are widely available and often inexpensive, but it

is good to seek out more sophisticated collections which offer more varied material. Examples of these are the Seeger book already mentioned, Marie Winn's *Fireside Book of Children's Songs* (1966) and Pete Seeger's *America's Favorite Ballads* (1961).

Song or rhyme, riddle or chant, it doesn't much matter when the child is very young. The main intention is to accustom him to words beyond the usual accompaniments ("No, no." "Shh." "Bye-bye.") to matters of every day life. In this way he may begin to appreciate language as a source of pleasure that is related to, but also apart from, utilitarian roles.

First Tales and Stories

☐ If the earliest stories are told to the child, rather than read from a book, they can be used more flexibly. This allows the transition from rhymes and songs to stories to be more gradual; the added spontaneity is also of value.

Cumulative and repetitious tales

The better the grown-up knows the stories, the more he is able to use them with a child. In thinking over their own store of stories, or preparing to add to their number, parents may usefully be reminded that successful stories for telling aloud include cumulative tales such as "The House That Jack Built," or "Henny-Penny," or "The Old Woman and Her Pig." Highly patterned or repetitious stories, such as "Teeny-Tiny" (there is a nice version of this in Johnson, Sickles, and Sayers, 1970) or "Millions of Cats" as told by Wanda Gag, are also enjoyed early. "Goldilocks" or the "Three Little Pigs" or "Billy Goats Gruff" make good transitional pieces toward more complexly plotted tales with less obvious outcomes. A good source of stories for telling is Joseph Jacob's *The Three Sillies* (1967), originally published in England in 1892 and now available in paper. Except where rhythm or refrain would be hurt by approximation, wording needn't be exact. Another exception is the opening phrase whose function it is to let the child know that he mustn't believe as literal truth what is about to follow. That is the magic of "Once upon a time," "Long ago and far away," "In a land neither here nor there. . . ." Of course the *style* of the telling sets a story off, too.

A Warning

☐ All of the foregoing are mentioned for their potential to contribute positively to a child's learning of language. It would be irresponsible, however, to fail to issue a warning as to the content of these stories and the extent to which enjoyment of them depends on the listener's capacity, and pleasure, in hearing them as intended, as non-realistic in reference, as play with words and patterns. *If there is any indication* that a child is confusing these stories and their sometimes frightening content with aspects of his own unfolding reality, their telling should be stopped at once, reassurance offered, and other stories found. How is such confusion expressed? In one household, a three-year-old manifested sudden and unusual reluctance to visit a well-loved grandmother. One or two quick questions sufficed to link this behavior with exposure to "Red Riding Hood," and fears could be promptly allayed. In another instance, and another household, the suspenseful buildup of "Teeny Tiny Woman" proved too much for the little boy, who clapped his hands over his ears as the "jump" ending approached. There is no need to press the issue and good reason for shunning the practice. Let this cautionary note conclude with the reminder

that fondness for this material will either come in time, or not. And to youngsters for whom it offers no pleasure, it will offer no benefit either.

Language Learning

☐ As the child becomes familiar with one or several stories, a good deal of learning takes place. In contrast with the syntactically incomplete fragments of everyday speech, the words of a story that is well told are the words of our language in full sail—conjuring settings, describing persons, arranging truths and consequences, causes and effects. Here the creative potential of words is displayed in ways that a child can absorb, and make use of, but need not articulate. Here, too, are opportunities to learn to remember things in order, and the rewarding experience of anticipating the ending. The element of power-through-mastery is what interests us and benefits the child. It is related to, but different from, feats of memorization for memorization's sake. Therefore, the wise parent interrupts the narrative to let the child provide a word, or "do" the refrain, or guess what will happen next. Each of these techniques enhances the child's sense of involvement and provides opportunity for affective, and cognitive, growth. These learnings are important for all children, sighted as well as blind. However, present-day understandings of the particular conceptual dilemmas that the blind child must somehow solve, tell us that experiences of orderliness are particularly important to him and help him find ways to stabilize his erratic, non-visual world.

Using recordings

Obviously, rhymes and stories provided by parents are not the only possible source of verbal stimulation through dramatic language. Although television is essentially an audiovisual medium, many blind and visually handicapped children enjoy it as "company"; the radio and the record player can also be used and enjoyed. Excerpts from the files of the Child Development Project demonstrate ways in which young blind children have used such equipment.

Joan. 2:8. Mother also reports that Joan is particular about the records she wants to be played for her. She also tells how Joan imitates a scream on the James Brown record . . . She enjoys anticipating the moment when she will join in and she smiles and yells, but in a very quiet way.

Karen. 3:1. From a Christmas present K. knows several of the songs and she sang along with the record. "Baa Baa Black Sheep," "Here We Go Round the Mulberry Bush," and she asked for "Jingle Bells."

Paul. 2:8. Mrs. M. reported that Paul mainly enjoyed physical play and musical play. This includes playing the piano and listening to records of music, but not stories. Mrs. M. would like to be able to read stories to Paul but has not found him ready for this. [Then, when he is nearly four:] Paul enjoys having stories read to him. Goldilocks is mentioned as a favorite. Mother says he adores listening to the record of *Stuart Little*. She is very pleased with this . . . He insists that stories should be read by "Mommies." He likes his records to have a female voice.

Record Selection

☐ With regard to children's records, careful selection is needed. For example, a story about a giraffe who was able to pluck a coveted bunch of ripe yellow bananas from a tall tree might be hard to assimilate without earlier access to animal pictures or an image of tallness in trees. But a story using sound cues in other, intrinsic ways might bring special pleasure. One thinks of the record of the Margaret Wise Brown story of Muffin, a little dog whose eyes are ban-

daged in *The City Noisy Book* (1939). Muffin can't see, but Muffin can hear—and hear things Muffin does! Steam in the radiator. A fly going buzz. People walking by. In *The Country Noisy Book* (Brown, 1939), Muffin, in fine, middle class fashion, journeys to the family summer home. In order to make the trip by train he must be put into a box. The device serves the story well. For if once again Muffin cannot see, Muffin can, and does, hear.

There are many excellent children's records, often available in library collections, in which readings of poems, stories, tales, and short dramatizations are offered by well-known theatrical, movie, and TV stars. For older children, there is *Peter and the Wolf*, the Prokofiev classic in which each character is introduced by a musical theme which later identifies him.

Child-operated record player

Records keyed to popular television programs for children have also proven successful with blind or visually handicapped children. Perhaps a key reason for their favor is that listening to them fosters a sense of being "in on" the elusive peer group culture. Further, a child-operated record player allows not only the on/off and loud/soft choices of the radio, but also skipping ahead to as far as the end, or return to a favorite part. We ought to keep in mind that knowing how a story ends does not at all spoil the fun for children, but rather seems to enhance it. Indeed, it is as if the better a child knows a story the more he enjoys its unfolding.

Emotional-Intellectual Growth

☐ Returning to our earlier observation of the emotional-intellectual growth opportunities inherent in many stories, we realize that what we are witnessing is an early and creative experience of putting elements in order, finding how things fit. Our emphasis on this idea derives from our awareness that the blind child does not and cannot experience many of the ways in which we organize our world. (We have in mind things as mundane as measuring spoons, as convenience-making as the placement of knives, forks, and spoons in a table setting, as much taken-for granted as "size places" in school.) Sequence, after all, is at the heart of logic. Without expecting that there will be a direct route between manipulation of "storytime records" and abstract thinking, we encourage certain behaviors.

Aural perception

Whether we are talking about a "told story" or one read from a book it must be remembered that for blind individuals of any age it is aurally perceived. One example from Project records illustrates this fact. The book in question is *I Can, I Can*—an inexpensive, supermarket choice about the various abilities of the pictured golden-haired girl. It was read aloud to Karen by the social worker. "To each thing the child in the story said 'I can' about, Karen added something (which) she could do too . . . I can reach for the soap and put it back . . . I can close my door at night . . . I can put my bike away when it's raining . . . I can help my mom cook."

Afterwards the observer wondered: Did Karen understand the projected "I" as belonging to the child in the story? Did she think, when she heard the "I" spoken, that it was uttered in self-reference by her friend, the reader? We can never know. The proper question is not which books can be recommended, but what materials do we select to support language learning, and also pleasure in language. These are the issues that have been considered throughout this

discussion—matters of rhythm, pace, sound, pattern, clear and vigorous action—and these are literary elements that can be expected to engage the attention of the listening blind child.

Integrated Groups

☐ But the blind child does not live alone. There are other children in the family, neighbors' children, and friends. When story reading is going on, should the blind child be excluded? No—with two provisions. First, expectations for understanding should be adjusted to accommodate the experience of a child who has no access to the pictures in the book, no possibility for visual recall, and a shifted curve of language acquisition—especially in the critical areas of appropriate use of the past tense and the personal pronouns (Fraiberg & Adelson, 1973). Second, some attempt should be made to increase the comfort of the child as he joins the story hour.

The book as an object

Perhaps the book is a new kind of object and ought to be explored. The outside is hard. The pages thin and smooth. How many of them there are! On quite a different level, one may wish to take into account that these children are, to an uncommon degree, dependent upon hearing as a source of information about the world they live in. Could this mean that to ask them to *not* listen to background noises (which is an absolute and necessary complement of giving a story full ear) is really to place the blind child in a strange and anxious condition? (Edna Adelson, a member of the Project staff, wrote of her first visit to Karen, "I would infer that her immobility and slump was actually her attentiveness to new voices, new arrivals. *She had stopped everything in order to listen.*" Emphasis added.) Were this the case, we should not be surprised if the children soon grow restless. As a safeguard the reader or the storyteller may find it helpful to maintain physical contact with the child throughout the presentation. An arm about the child would do it, or placing the child on one's lap. In this way the child could know without having to check on it, that he was safe, and companioned; that the story person was there.

Physical contact

Interest in books

And books, of course, will be part of the household—not works of fiction, in every case, but cookbooks and telephone books, a Bible or dictionary. Slowly the child will become aware of them as resources. And, in just this same sense, the parents can begin to convey that books are for finding out about things, or for giving comfort or pleasure. We *read* what is in a book. "Carla (4:1) wants to know about books. She enjoys listening to stories, and, as all children do, wondering how parents magically get the stories from the pages of the book." The psychologist visiting the family suggested that they "seek out good sources of children's books in braille so that Carla can feel the bumps and begin to relate those bumps to the interesting stories. It would be much like the sighted four-year-old who sees the printing on the page and, without being able to read at all, begins to value the hidden meaning of the printed word." So another teaching is hinted at: sighted people read printed books; people who are blind read braille.

End of special attention

We are of course moving closer to the time in the child's life when we shall have to give up our special attention to literary materials as aids to language learning. But by then it may not be needed. Seldom does one find a circumstance better characterized by the words, "Well begun is half done." And eventually,

for the blind child as much as the sighted, the literature he chooses—as well as that which is chosen for him—needs to include opportunities for "the acquisition of new knowledge, flexing, and strengthening the capacity for fantasy, stretching of the imagination, allowing temporary suspension of primary process faculties for the ultimate attainment of higher level secondary process integrations, and, in the exercise of all of these, permitting some degree of emphatic identification with a person, situation, or affect, as a fundamental gratification in the experience of reading books" (Goldings, 1968).

Summary

☐ Certain suggestions for the use of literary materials in support of language learning by the preschool blind child are derived from the recognition of the blind child's special needs with regard to language learning and the observation that the spontaneous efforts of parents are pertinent but insufficient. Emphasis has been placed on the use of traditional nursery and folk material because its stylistic properties are reciprocal, in many ways, to the learning needs of the blind child. The key to it all is orderliness: the intrinsic order of stories meant to be aurally perceived, the need of the blind child to find order so that the world may become his own.

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Authoritarianism, Attitudes Toward Blindness, and Managers: Implications for the Employment of Blind Persons

LARRY D. BAKER, D.B.A.

Dr. Baker is assistant professor of management and organizational behavior, School of Business Administration, University of Missouri—St. Louis.

ABSTRACT: Some employers express positive attitudes toward the capabilities of blind persons, yet are unwilling to hire them. One factor which may help to explain this reluctance is the authoritarian personality characteristics of employers. High authoritarians tend to hold more negative attitudes toward the blind and they also hold or aspire to important decision- and policy-making positions in organizations. Thus, organizations in our economic system may foster the development or promotion of persons who are most likely to hold negative attitudes toward blind persons to positions where decisions and policies on hiring the blind are made. The empirical literature exploring the relationships among these variables is reviewed and areas of needed research are suggested.

Historically, finding employment in competitive occupations has been a major problem for blind and visually impaired persons. The negative attitudes of businessmen and other employers toward the capabilities of the blind have been cited as the major impediment (Clunk, 1966; Fletcher, 1970).

Attitudes of Employers

☐ Several recent studies of the attitudes of employers lend support to this explanation. In measuring the reactions of businessmen to hiring persons suffering from one of six disabilities for competitive employment, Fletcher (1970) found that persons suffering from paralysis, epilepsy, heart trouble, and facial scar were more frequently believed to be more employable than the deaf and blind, who were most frequently rated as least employable.

Resist hiring the blind

Although not empirical studies, two articles relate the experiences and problems of their authors in finding competitive employment for blind persons. Reporting on experiences in his company, Nichols (1970) asserted that top managers were cautious, reserved, and suspicious of anyone that suggested hiring a blind person. He further claimed that top managers thought that hiring a blind person was simply asking for more trouble and that they perceived the capabilities of the blind worker as equivalent to those who cane chairs, make brooms, and sell pencils. In an extensive discussion of the historical development of attitudes toward competitive employment of blind persons, Clunk (1966) reported that negative attitudes held by members of organizations serv-

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ing the blind led to the development of the "blind trades," e.g., making brooms and caning chairs. He further stated that these attitudes led to demeaning legislation in the 1930's which gave privileges and extraordinary assistance to the blind. He added that the attitude that blind persons could not compete with the sighted in employment was followed by the development of similar negative attitudes by the general public toward their overall capabilities.

Uncooperative

Three recent articles concerned with career education for the blind report reservations and reluctance on the part of employers. Clayton (1973) reported that only 23 percent of the executives (presidents, vice-presidents, and top administrators) returned mailed questionnaires concerned with employing the blind. The other two articles describe career development programs involving on-the-job work experience. It was reported that participating organizations would not pay the blind workers. In one instance, the training agency paid their wages (Lawrence, 1973), and in the other, the agency gave a stipend (Huber, 1973). In both cases, employers perceived a financial risk they were unwilling to assume.

Positive Attitudes Reported

☐ Although there is a dearth of empirical research on employment of blind persons, the literature consistently depicts a restrictive environment with regard to their opportunities for competitive employment. It further suggests that employers' negative perceptions of their capabilities may be the cause. A recent study, however, suggests that employers' perceptions of the capabilities of blind persons may not be the only cause of the restricted opportunities. Contrary to the above literature, Black (1970) found that businessmen in his survey held positive attitudes toward the capabilities of blind persons: a) Over 97 percent of the businesses and industries indicated blind persons could do more today than 25 years ago; b) 80 percent agreed that they could work in skilled and professional positions; c) Over 70 percent felt that they could work at highly skilled jobs; d) 75 percent of all respondents indicated they were willing to hire a properly trained blind person for a position never filled before by one; e) Over 92 percent agreed there would be more blind persons working in industry if they were given more opportunities to demonstrate their abilities.

Still unwilling to hire

Even though these businessmen agreed with the above statements, they still expressed an unwillingness to employ blind persons. Of these same respondents, 66 percent indicated that a blind person could not work in their business, and over 70 percent indicated they would not welcome one in their company. Black's findings suggest that additional, or alternative, explanations are needed to clarify the restricted employment opportunities for blind persons.

Bringing together research findings from two previously unrelated fields, the psychology of the blind and organizational behavior, may help explain businessmen's reluctance to hiring blind persons. Relating the findings of a number of articles from each field which have investigated authoritarianism suggests that this personality characteristic may be an important factor in developing a better understanding of this problem.

Authoritarianism . . .

☐ Cowen, Underberg, and Verrillo (1958) and Whiteman and Lukoff (1962) found that persons having authoritarian personality characteristics were likely to have negative attitudes toward blindness. Some of the characteristics found

to be consistent with the authoritarian personality are the placement of high value on strength and authority (Cowen, et al., 1958); need to associate with the influential (Noonan & Barry, 1970); social acquiescence (Bass, 1956; Shaw, 1961); conformity (Vaughan, 1964); intolerance for ambiguity (Cowen, et al., 1958; Jackson & Messick, 1967; Vaughan, 1964); rigidity, dogmatism, and prejudice (Jackson & Messick, 1967; Vaughan, 1964); and narrow-mindedness (Vaughan & White, 1966).

. . . and rejection of blind persons

Several of these characteristics are especially relevant. The authoritarians' valuing strength, authority, and association with the influential can result in their having a natural aversion for the blind who are generally perceived as helpless, dependent, and socially inferior (Baker, 1972; Barker, Wright, Meyerson, & Gonick, 1953). The tendency for authoritarians to acquiesce and conform to widely held beliefs (in this case, negative attitudes) may also explain the inverse relationship between authoritarianism and attitudes toward the blind. In addition, authoritarians' low tolerance for ambiguity can strengthen their tendency to avoid the blind, since a blind person presents an ambiguous stimulus. On the one hand, there is a need to accept him as one would any other person, but, on the other, there is a need to avoid the ambiguities associated with his blindness.

Resistance to change

Additionally, some of the characteristics associated with the authoritarian personality, such as intolerance for ambiguity, rigidity, and dogmatism, are also considered important factors determining resistance to change (Dickie, 1967). Further support for the positive relationship between resistance to change and authoritarianism was found by Golembiewski (1966). The positive relationship between these variables may have influenced the findings of Dickie (1967). He found that those scoring high on a measure of acceptance of change had more positive attitudes toward the blind. While only three studies have been found which relate authoritarianism to attitudes toward the blind, all have consistent and significant findings which support the negative relationship between these variables.

Other disabilities are rejected

This relationship is further supported by studies relating authoritarianism to other physical disabilities. Noonan and Barry (1970) cite theorists (Dembo, Leviton, & Wright, 1956; Gellman, 1959) and researchers who show support for the negative relationship between authoritarianism and attitudes toward the handicapped. Specifically, the level of authoritarianism has been found to be negatively related to attitudes toward deafness (Cowen, Rockway, Bobrove, & Stevenson, 1967) and to amputation, facial disfigurement, and wheelchair confinement (Noonan & Barry, 1970). In addition, Jabin (1965) and Chesler (1965) found a negative correlation between attitudes toward the physically disabled and authoritarian personality traits. Also, Jabin (1965) found authoritarianism, level of ambition, and concern for status to be positively related to attitudes of pity, hostility, and repulsion toward physically handicapped persons.

Attitudes of Males and Females

☐ Although no sex differences have been found on measures of authoritarianism (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950; Vaughan & White, 1966), several studies suggest that males may differ from females in

their attitudes and behavior toward the blind. In two studies mentioned above (Cowen, et al., 1958; Dickie, 1967), it was found that females held significantly more positive attitudes toward the blind than males. Further, Cowen, et al. (1958) reported that the tendency for male respondents to verbalize more negative attitudes toward the blind than females seemed to be a generalized respondent characteristic which cut through all the attitude scales used in developing their own scale (Fitting, 1954; Steingisser, 1954). In addition, Jabin (1965) found that females showed significantly greater expressions of positive attitudes and fewer expressions of negative attitudes than males toward the physically handicapped.

Measures of benevolence

Along with attitude differences, Dickie (1967) found that females scored significantly higher than males on measures of benevolence. Baker (1972) found that females gave significantly more help to blind than sighted persons when both were in the same predicament and needing help, but that males did not discriminate between the blind and sighted in helping. While no sex difference has been found in authoritarianism, sex differences are apparent in attitudes and behavior toward the blind.

Authoritarianism in Business

☐ Not only is authoritarianism related to attitudes toward blindness; it also appears to be an important personality characteristic of business executives and those aspiring to such positions. Scherzer (1970) reported that executives in selected manufacturing and advertising firms scored significantly higher on a measure of authoritarianism than did their subordinates. He further found that the tendency was independent of the type of organization and its objectives. Golembiewski (1966) reported that executives in traditional bureaucratic organizations scored significantly higher on the California F scale than did executives in non-bureaucratic organizations. Also, managers in manufacturing organizations scored significantly higher on a measure of authoritarianism than a normative sample of college students (Fleishman & Peters, 1962). Further, Miner (1973) reported that ex-consultants hired for management positions consistently scored lower on a measure of reaction to authority (dominance and power motivation) and on a measure of desire to conform to socially prescribed norms of masculinity than career managers.

Line and staff positions

Contemporary organizations still use the traditional line and staff designation to distinguish those who are concerned with producing their products and services from those who serve in advisory capacities. Although the importance of the staff specialist is clearly recognized today, those holding line positions continue to have greater power to influence organizational decisions. The greater power to influence and to associate with other influential people holding line positions may help explain the results of three additional studies. College students having an orientation to line positions scored significantly higher on a measure of authoritarian personality characteristics than those students oriented toward staff positions (Golembiewski, 1966; Sowers, Badertscher, & Eidson, 1964). Further, Liberty (1964) found that those who scored high on authoritarianism have greater occupational prestige concerns than those scoring low on this measure.

Authoritarianism and Hiring Practices

☐ Although only six studies were found which relate authoritarianism to or-

ganizational positions, a consistent theme appeared in all. Those holding or aspiring to the most powerful organizational positions are most likely to have authoritarian personality characteristics. Scherzer (1970) suggests that this phenomenon may result from pre-selection, self-selection, or a tendency to adhere to organizational norms and values. Regardless of the origin of these personality traits among managers, they have important implications for the employment opportunities of blind persons as well as other physically handicapped individuals. Our economic system may foster the selection or development of persons with authoritarian personality characteristics for important decision-making positions in organizations. Therefore, the high level of authoritarianism that is characteristic of top managers and executives and the strong negative relationships of these characteristics to attitudes toward blind persons may explain and perpetuate unemployment of the blind. Regardless of how productive blind persons might be, the findings of the aforementioned studies suggest that top level managers and executives will have a natural aversion to them.

Research Suggestions

☐ The implications of the above research findings suggest a need for exploring the relationship of authoritarianism and attitudes toward blindness among those in organizational decision-making positions. The effects of the relationship between these variables on the employment of blind persons should be investigated in several areas. For example, it should be studied among those involved in determining hiring policies, recruiting, and selection; among those who directly supervise blind workers; and among the sighted co-workers of the blind. The relationship should also be explored in organizations differing in size, industry, and type of output, i.e., product or service. In addition, sex differences need to be explored within the above-mentioned areas.

New strategies

Gaining empirical evidence on how authoritarianism relates to attitudes toward the blind and how this relationship in turn relates to organizational variables, such as those mentioned above, can result in identifying organizational profiles which may be more or less favorable for the acceptance of blind workers. In addition, businessmen and other employees should be made aware of a potential natural aversion for blind workers and its relationship to authoritarian personality characteristics. While this may be an important first step, it must also be realized that these personality characteristics may be the key to success for managers and executives. Therefore, such characteristics are undoubtedly strongly reinforced and have little potential for change. Also, where future studies of organizational profiles on the relationship of authoritarianism and attitudes toward blindness reveal little opportunity for blind workers, it may be necessary to promote affirmative action programs.

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International Register of Research on Visual Impairment Planned

An International Register of Research on Visual Impairment is being compiled by J.M. Gill of the University of Warwick, in cooperation with the International Research Information Service (IRIS) of the American Foundation for the Blind. This Register will be a continuation and expansion of the European Register of Research on Visual Impairment, compiled by Dr. Gill and M. J. Tobin of the University of Birmingham (England), published in May 1974.

The International Register will cover research into the causes of blindness, work with extremely low vision patients, sight restoration and management, and referral of patients who are losing their sight, in addition to all aspects of the education, habilitation, and rehabilitation of the visually impaired. To encourage the fullest possible coverage, students whose projects are acknowledged by their faculty advisors to be "research" will also be eligible for inclusion in the Register.

The compilers see a number of uses for the Register: it can serve as a means of putting researchers in touch with others with common interests; it may encourage researchers to have more understanding of the usefulness of reporting research in progress; it may eliminate unnecessary duplication of effort; it will provide practitioners with information about research being done.

Forms to be filled out by researchers wishing to be included in the Register are available upon request from J.M. Gill, Department of Engineering, University of Warwick, Coventry, Warwickshire CV4 7AL, U.K., or Leslie L. Clark, Director, IRIS, American Foundation for the Blind, 15 West 16 Street, New York, N.Y. 10011, U.S.A.

Deaf-Blind Children in Canada

ABSTRACT: Although it is suspected that there are approximately 530 deaf-blind children in Canada, a questionnaire survey revealed that only 66 such children have been identified. Of these, 44 have received full diagnostic assessments. It is suspected that a large number of deaf-blind children have been placed in institutions for the mentally retarded. There are only two schools in Canada offering services for these children. There is no program for training teachers of the deaf-blind. A number of recommendations for improving services for deaf-blind children in Canada are made.

MARG CSAPO, Ph.D.
BRYAN R. CLARKE, Ph.D.

Dr. Csapo is assistant professor and Dr. Clarke is professor of special education at the University of British Columbia, Vancouver.

Education for all children is still not a reality for many young Canadians. Children are waiting—but the classrooms are shut. Some children's futures have been cancelled either for lack of interest, for lack of know-how, or for an unwillingness to meet the problem.

The rubella epidemic of 1963-65 left a tragic toll of 20,000 to 30,000 infants with hearing and visual defects in the United States. Many of these children were deaf-blind and the urgent need for services was answered by action. The legislation (Title VI-C, P.L. 91-230) in the United States which established the regional centers, used a definition based on educational rather than medical or sensory acuity criteria for eligibility: "a child who has auditory and visual handicaps, the combination of which causes such severe communication and other problems that he cannot properly be accommodated in special education programs for the hearing impaired or for the visually handicapped child" (Dantona & Salmon, 1972).

Questionnaire Survey

☐ We were interested in the number of deaf-blind children in Canada who belong to this descriptive category and in the services which are provided to meet their educational needs. To establish the incidence, a questionnaire was sent to each provincial department of education, to the provincial headquarters of the Canadian National Institute for the Blind, to provincial hospital schools or institutions for the retarded, to residential homes for multiply handicapped children, and to schools for the deaf and blind in Quebec. All but a few questionnaires were answered and data concerning known cases and their educational programs were received.

Results

Sixty-six deaf-blind children between the ages of 0 and 20 years were identified. All had a medical diagnosis of deaf-blind, i.e., central visual acuity of 20/200 or less in the better eye with correcting glasses or central visual acuity of more than 20/200 if the widest diameter of the visual field subtends an angular distance no greater than 20 degrees *and* a chronic impairment of hearing so severe that most speech cannot be understood with optimum amplification (there is no medico-legal definition of deafness in Canada). These school-age children had the additional educational classification of deaf-blind, i.e., they had both a visual and auditory impairment of such an extent, when considered conjointly, that they were unable to develop or function sat-

isfactorily in either a regular program for auditorily impaired children or a regular program for visually impaired children.

Diagnostic assessment

A full diagnostic assessment was reported in 44 instances (68 percent), and the ability ratings were as follows: normal intelligence—7, severely mentally handicapped—21, trainable mentally retarded—4, educable mentally retarded—4, not recorded—24. The prognosis was "uncertain," "poor," or "very poor," except for seven cases reported as "doing well," "could be good if he attends school," "good," "great deal of potential," "doing extremely well," "fairly good," and "bright."

Age distribution

Age distribution of the known cases and the number of these children who are receiving some educational provision designed for deaf-blind children: 10 children are between the ages of two and three, seven children between eight and nine, and seven between 15 and 16. Since there is no marked increase in the group born in the 1963-65 period, we must suspect either that the rubella virus had a different effect when it crossed the 49th parallel or that many of these children have not yet been found.

Discussion

☐ The number of identified cases in the U.S. in 1971 was 3,600 deaf-blind children (Dantona, 1971). At the beginning of 1973, 5,300 deaf-blind children had been identified by the regional centers (Dunham & Sweetser, 1973). Active case-finding and the availability of programs resulted in an increase of 1,700 cases over a two-year period. If the incidence is similar in Canada, one would expect to find approximately 530 deaf-blind children. However, only 66 cases were found; of these, 15 are in classes for the deaf-blind.

It seems unrealistic that there would be only two deaf-blind children in the entire population of Quebec, but the education department and institutions were unable to help us find any more. The C.N.I.B., currently organized only in a small part of this province, admits that the registry in incomplete.

Institutionalized children

Many of the institutes for the retarded reported cases which are suspected to fit the category of deaf-blind, but generally central nervous system damage is so extensive that effective diagnosis becomes very difficult and incidence figures become unreliable. There is a possibility that deaf-blind children placed in institutions at a very early age would not be known to the services and agencies who were contacted. In many countries, children have been in schools and institutions for the retarded who in fact are not retarded, but are so labelled due to a lack of training and experiences (Waterhouse, 1972).

Too often professionals label the congenitally deaf-blind as severely retarded, thereby preventing many of these children from receiving services; this in turn results in developmental delays (Dunham & Sweetser, 1973). The added danger of frequent misdiagnosis and numerous contradictory diagnoses (Elonen & Cain, 1964) raises doubts about the appropriateness of institutional placement at an early age.

Relocation through evaluation

In Canada, many deaf-blind children who have been classified as mentally defective may be in institutions today and a more thorough evaluation might lead to the relocation of some of these children. The quality of institutional treatment, highly dependent on the size and training of the staff, might not allow for an intensive educational program for a deaf-blind child. The descriptive label of trainable or severely retarded restricts placement possibili-

ties and often lowers expectations. It might also be suspected that so called trainable and severely retarded deaf-blind children are not exposed to the same degree of educational intervention as their educable counterparts.

Dantona (1971) raised the question of whether more deaf-blind children could be found in state institutions in the United States than in other locations. The same question awaits an answer in Canada.

The need for evaluation techniques based on more standardized observational procedures has been documented (Curtis & Doulon, 1969). But the best diagnosis is of little value unless one can do something about it.

Educational Facilities

☐ A day class in the Ardmore School, Halifax, Nova Scotia, provided services for four deaf-blind children, Interprovincial School for the Deaf, Amherst, Nova Scotia, for three, the Ontario School for the Blind for eight. During the 1972-73 school year, educational opportunities were offered to 15 deaf-blind children in Canada.

In September 1973, nine children were admitted by the Inter-provincial School for the Deaf for residential schooling, including the four at Ardmore School and the three already at Amherst. Two additional places are to be created. The Interprovincial School serves the needs of children resident in Nova Scotia, New Brunswick, and Newfoundland. Two schools more than 3,000 miles away from many corners of this vast country provide the only school-age programs for the deaf-blind children of Canada.

Training more teachers

Will other provinces continue to rely on the educational services offered in Ontario or in Nova Scotia? Training a few teachers obviously would save considerable expense and provide needed services for many years to come. Having specially trained teachers within a region would have other advantages besides direct educational involvement with the pupils. Parent counselling could be immediate, comprehensive, and continuous. The teacher of the deaf-blind could help parents from the earliest stage to develop social awareness and the ability to communicate and to master manipulative skills, self-help daily living skills, mobility, orientation, and speech and language skills. This early intervention in the home is of tremendous importance (Scott, 1968) and might make all the difference in a non-verbal child whose major plight is isolation from those around him. Working directly with the child and the parents until the child is placed in a program which meets his unique needs offers a teacher an excellent opportunity for a continuous functional educational diagnosis of the child. The catastrophic effect of such a child upon the family could be greatly alleviated by providing the opportunity for active parental involvement in the education process with guidance and support.

Provision of a few trained teachers at the regional level and the use of existing day-residential facilities would also obviate the need to transport children such long distances and the prolonged absence from their homes.

No training in Canada

In Canada, there are no facilities for training teachers of the deaf-blind. The teachers at the Interprovincial School received specialized training for the deaf-blind at Perkins School, Watertown, Massachusetts. At the School for the Blind, Brantford, Ontario, one teacher was trained at Perkins; the other four hold provincial specialist certification as teachers of the blind and at present they are working toward their provincial certification as teachers of the deaf.

However, it must be emphasized that the teacher of the deaf and the teacher of the blind is only partially trained for educating deaf-blind children (Berhow, 1963). Deaf-blindness is not an additive problem of deafness and blindness, but a multiplicative association requiring unique solutions.

Europe has extensive programs for training these specialized teachers (Guldager, 1971). Australia commenced a joint program in 1969 through Sydney Teachers' College and North Rocks Center for Deaf-Blind Children; the United States currently has ten centers of teacher training.

Parent Training

☐ The National Association for Deaf-Blind and Rubella Children in England was funded by parents who felt that the lack of constructive help from hospitals to parents of rubella infants left them with unmet needs. The stop-gates of anxiety had to be lowered. Help was needed to break into the isolated world of the rubella baby lying on the floor under the light flapping his fingers.

A programmed, organized activity of stimulation which helps the deaf-blind infant to interact with his environment from the earliest opportunity (Goldfarb, 1945; Piaget, 1948) should be part of an early intervention procedure (Fraiberg, et al., 1969) and should be followed by rigorous home training and a formal educational program for the child by the age of three (Mouchka, 1971). A substitute system using touch and smell provides the infant with his first clues (Freeman, 1971). The parent, with guidance and support, can stimulate and develop learning during the pre-school years which bear such significance to subsequent intellectual development (Hebb, 1949). Only a few Canadian parents receive such training from the C.N.I.B.

Concluding Thoughts

☐ Even if immunization against rubella should reduce the incidence of auditorily and visually impaired infants, the other causes of deaf-blindness (toxoplasmosis, encephalitis, birth trauma, prematurity, blood incompatibility, the Laurence-Moon-Biedl Syndrome, Ushers Syndrome, retrolental fibroplasia, battered children, accidents, etc.) cannot be overlooked. Even when incidence is considerably reduced, European countries make provision for small numbers of deaf-blind children (Dantona, 1971). Finland provides three teachers for seven deaf-blind children, Denmark five teachers for nine such children, and East Germany three teachers and a teacher aide for the same number. Spain, The Netherlands, and Sweden also have extensive programs. These countries have adopted the charter that the community must accept responsibility for providing adequate educational facilities for the child who is deaf-blind, and sufficient opportunities and encouragement to make possible the optimum development of his capacities. Canada can do the same.

Recommendations

In Canada we urgently need: 1) a systematic survey for case-finding of all institutions for the retarded; 2) to provide an intensive evaluation of each child: a thorough diagnosis and functional educational evaluation; 3) provision of regional educational facilities for the deaf-blind; 4) the establishment of a university department at one Canadian university for the training of teachers of the deaf-blind: to develop professional and technical training for new and prospective workers in the field of service, to develop teaching approaches and techniques, methods of evaluation, parent education, to serve as a diagnostic center which could advise the department of education with regard to appropriate placement of these children, to promote understanding of

deaf-blindness in both professional and lay communities, to develop alternative programs in existing schools and institutions; and 5) the provision of continuous services in the form of rehabilitation programs for deaf-blind youths and adults, closely related to the educational programs in the schools.

Federal responsibility

The deaf-blind children, as well as children of other exceptionalities, suffer for lack of federal intervention and incentives in educational matters. Since the federal government in Canada hesitates to assume responsibility or to provide a special incentive to provinces for the education of all children, the birthright of deaf-blind children won't be guaranteed for many years to come.

Many of these children can be trained to be more self-reliant and to lead more rewarding lives, but too many are currently denied an education. It is also suspected that others are buried, often at an early age, in an institution where for want of necessary stimulation and training they live in a semi-comatose existence in a solitary soundproof cell deprived of light. Deaf-blind children in Canada are waiting. How long will they have to wait?

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Hindsight / M. Robert Barnett

Saxophones and Babies

About two years after I lost my sight, I was persuaded to matriculate at the school for the blind in my home state of Florida. I soon learned that all students were assumed to have a degree of musical talent—an assumption that was acceptable to my youthful ego.

It didn't take very long for both the assumption and the ego to dissolve. I was assigned to instruction in piano, to sing baritone in the chorus, and to play something in the band. It was this last that was my undoing. Piano didn't bother me much, since my grandmother music teacher had introduced me to it many years earlier. In fact, she thought that I, at seven years old, should take up the violin. I much preferred to play baseball, and both piano and violin were badly neglected. As a result, I grew up to be neither a violinist nor a big league pitcher.

But, to get back to the band in the school for the blind. It seems that, at the time, what the band needed was more umph in the bass section. The only instrument this school owned that had a lower register was a C-melody saxophone. Most of you non-musical types will not know what that means—and I still wish I didn't! At any rate, I spent quite a few months coming in with the oom-pahs in an arrangement of the "Blue Danube" that cried for a bass horn.

Notwithstanding, I figured it was good training, and so it was. On going to college, I managed to acquire an E-flat alto sax which is a much more civilized instrument than a C-melody—a fact with which any of you who know anything about music will agree. But again, life was not to



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be so simple. In the first place, the university band was just that—a marching band and not just a sit-down orchestra. No one, including myself, could solve the problem of my marching in step and in line, and saxophones were not really that much in demand in that kind of band.

So, sad and forlorn, I got out the E-flat sax in my room and started blowing my heart out on my special rendition of "Getting Sentimental Over You." There came a great knock on my door, and I got prepared for a complaint about the noise. Instead, it was a fellow I knew only slightly —as what was known as a "preacher boy"—meaning a preministerial student aiming eventually for the seminary. He had with him a beautiful B-flat tenor sax.

From this grew a friendship nurtured over our own arrangement of a duet more or less based upon "Shubert's Serenade" and "I've Got the Love of Jesus Down in My Heart." It also gave me a chance to pick up a little pocket money on occasion. We had a small combo that played for Saturday night dances—five dollars for five hours work. This was an intriguing, but tiring life, and any thoughts that I was to become another Benny Goodman began to fade. There were also those times when I was featured as a blind soloist at some church or civic club function, and I began to wish I had never even seen a saxophone, much less owned one.

After college, times were still pretty tough when it came to ready cash. I hung onto the sax, thinking it might still bring in a fiver now and then. Well, I got married; my wife got pregnant, and I had to sell the saxaphone to pay the hospital bill.

Debbie

Debbie is a girl who lives in the Bay Area in California. She has just turned seventeen —a really magical age. Debbie is blind and always has been.

At the convention of the Association for the Education of the Visually Handicapped in San Francisco last June, Debbie was one of several young people who are usually to be found at such conventions. They are good demonstrations of the good work of the professional group—not to mention that they provide an element of inspiration and rejuvenation to the group's jaded spirit and occasional questioning of whether it really is worth all the trouble. For the most part, the young blind people do a little singing or play the organ, like the youngster at the Ohio convention many years back who swung out with the title song from "Oklahoma."

Debbie, however, neither sang nor played the organ. She simply talked. She said it was the first time she had done that kind of talking—about herself. She was the *piece de resistance* at the special interest session on youth services, a session that is slanted toward those in attendance from the fields of scouting, recreation, and other non-academic programs, led by the indomitable Ross Huckins. The idea is to encourage such youth organizations to open their arms, hearts, programs, and camps to blind youngsters. Debbie was to be a living example of how it can be done, and she was—or is.

With nothing more than normal adolescent hesitancy, Debbie told of her experiences with the Brownies. This came after she learned mobility at the age of four or five by holding on to her daddy's hip pocket when he—an outdoorsman—took her on the trail with him. It seems that Girl Scouting, at an older age, left her cold; and, in fact, she said that her experience there was a bummer. She hastened to add that it was a bummer for all the girls in the troop and not just for her as the only blind member. The problem, she said, was the troop leader who let the kids run wild to do their own thing—which they really didn't want to do.

The main reason that Ross had arranged for Debbie to talk arose from her more recent activities with the 4-H club. There is not time here to go into all of it, but it should be noted that her example is worth studying. Not only has she gained valuable personal experience, she also has demonstrated that a blind young woman can find her place as a counselor of other youngsters. This led us to ask whether she was thinking of a career as a teacher or counselor, and her answer was "no." Like all teenagers, all she can see just now is a planned exchange visit this summer to Germany.

Debbie, by the way, seemed to be talking extemporaneously, and doing a heck of a better job of it than most adults presumably accustomed to public speaking. Someone told me that she kept her hands in her lap, concealed behind the platform table. I suspect that, at 17, she is already smart enough to give herself some convenient braille notes.

Asked again about career intention, and admitting still an open mind, it was suggested that she might consider the field of law. She seemed somewhat startled at the thought, not so much because she is blind but because she is a woman. Well, women's libber or blind libber, here's hoping that in a few short years Debbie walks off a campus with a law degree in her hip pocket and still talking.

Murder or Suicide

I understand that the people who call themselves the organized blind intend either to destroy the establishment or control it. I'm wondering whether it may not be the same thing.

Comment

A Tactile Guidestrip for Blind Pedestrians

Helen Elias

Visually handicapped persons are taught to use the sound of traffic for guidance in aligning themselves properly at intersections. Traffic sounds are also used to indicate when to step off the curb and to maintain the direction of travel while crossing. This technique works satisfactorily at the majority of intersections, which cross at right angles. However, for those complex intersections with more than two streets, unusual crosswalks, diagonal crossings, or exceptionally wide streets, it is difficult to maintain proper direction while crossing, and a blind pedestrian might veer into oncoming traffic.

In San Diego, an experimental tactile guidestrip has been installed to help visually handicapped pedestrians in crossing complicated intersections. The Public Works Department worked in close cooperation with staff from the Blind Recreation Center, the San Diego City Schools, and the Department of Rehabilitation to develop the mobility aid. The cooperative efforts were begun to solve a problem in the travel route of a mobility client of the Blind Recreation Center who was learning to travel from his home to his work downtown. One intersection was difficult to negotiate because of its diagonal configuration and constant traffic.

The city's traffic engineer and the Public Works Department designed a four-inch wide strip of epoxy cement into which quarter-inch pea gravel was imbedded. The strip was placed in the crosswalk about eight feet from the parallel street to provide clearance from the parallel traffic (see Figure 1).

The mobility student practiced crossing with the guidestrip. He approached the intersection, located the strip in the crosswalk with his cane, lined up with the parallel cars, and stepped off the curb when the cars moved with the light. He straddled the strip with his feet and touched it with his cane tip every other step (see Figure 2). The guidestrip assured him of a straight line of travel and allowed him to concentrate on traffic movements. He successfully crossed the intersection without veering and was able to complete his independent trip to work.

"The guidestrip," according to the Traffic Department, "is still considered to be a test installation and further study is being



Figure 1

made to evaluate its durability and effectiveness under all traffic and weather conditions." The agency mobility specialists are working with the engineers to recommend other intersections for guidestrip installation. It is important to realize that the tactile strip is only a guide for direction and does not assure safety in crossing. The strip is unnecessary where the traffic line is identifiable and clear.

The city officials are enthusiastic over the initial success of the guidestrip. They are continuing close cooperation with trained mobility specialists and communicating with local agencies and officials for ongoing improvements toward more efficient and safe mobility. For further information about the guidestrip, contact Donald O. Robbins, City Traffic Engineer, Public Works Department, City Operations Building, Station 400, 1222 First Avenue, San Diego, California 92101.

Ms. Elias is a mobility specialist with the Blind Recreation Center, San Diego, California.



Figure 2

Review

Listening for the Visually Impaired, A Teaching Manual, by Claudell S. Stocker. Springfield, Illinois: Charles C Thomas, 1973. xxiv+167 p. $7.75.

Reviewed by Susan Jay Spungin

Based on the belief that listening can be taught as a primary function through formal instruction, a project on developing a listening program was initiated at the Kansas Rehabilitation Center for the Blind. *Listening for the Visually Impaired* by Claudell S. Stocker is a result of this project and presents instructional materials and exercises containing information on various methods and techniques proved effective for the improvement of listening. During the past six years all trainees entering the Rehabilitation Center have participated in a formal listening program which has improved their listening skills with an average gain of 19 percent.

The whole area of listening education as a vital factor in the rehabilitation of the blind has for too long been neglected and it is refreshing to see a publication that presents a sequential course of study that facilitates the improvement of listening efficiency. Ms. Stocker's material was designed to be used over a seventeen week period scheduled for three hours per week for each client or trainee. The teaching material is divided into three phases of instruction: Pre-Skills or Listening Readiness Program, Development of Listening Skills, and Development of Recall and Retention through the Techniques of Review.

Phase I, "Pre-Skills or Listening Readiness Program," consists of twenty exercises dealing specifically in training discrimination of likeness and differences of sound, unlearning rote listening, that is eliminating retention of irrelevant words and non-verbal sounds, and the development of other sensory modalities in listening and retention. Exercises with words

and non-verbal sounds from tapes are sequentially presented to the student for rapid immediate response as well as exercises aimed at developing mental imagery to facilitate memory.

The fourteen exercises found in Phase II, "Development of Listening Skills," attempt to teach the student more efficient methods of listening such as tuning in, questioning, listening for the purposes of review and retention, and for orientation in time and space. In addition, time is spent reacting to and understanding one's own personal emotional filters that can cause positive or negative reaction to any given situation.

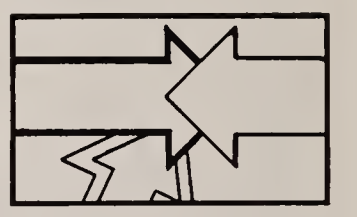
Phase III, "Development of Recall and Retention Through the Techniques of Review," contains thirteen exercises and five short stories, informal paragraphs, speeches, music, etc. Here one is able to review "... general ideas, putting them together to form a whole, which allows pertinent facts to emerge from the total picture."

Listening for the Visually Impaired is an excellent teaching manual that enables the teacher to follow sequentially developed detailed lesson plans and listening exercises. Although the material is developed for the adult population many of the teaching methods and materials could be adapted for the school age population as well. In fact, with the exception of the introduction, no reference or lesson introduces special material specifically for the visually impaired; consequently, allowing this manual to be easily used in any integrated setting that serves both sighted and visually impaired persons.

Ms. Stocker is to be congratulated in filling a great need for a developmental course of study on teaching the importance and skill of listening to the total person.

Mrs. Spungin is the American Foundation for the Blind's education specialist.

From the Field



VIGNETTES OF BLINDED VETERANS OF THE VIETNAM WAR

Robert Robinson

Editor's Note: This "From the Field" contribution is the second part of Mr. Robinson's report on his survey of the present life situation of blinded veterans of the Vietnam War; the first part appeared in the May 1974 issue of the New Outlook.

The following observations and comments were selected at random and the individuals are appropriately disguised. They provide the reader with an additional perspective as to how these newly blinded veterans regard themselves and their situation and give some idea how they are coping or not coping with their problems, with or without VA help.

Mr. C.

In his 30's, he served in the Marine Corps, is totally blind, has loss of hearing in one ear and facial disfigurement. High school not completed, he tried junior college but "could not do it." Would like vocational training to be able to do something manually. Appears to need vocational counseling from an understanding person to help him select suitable employment goals. Would prefer to stay in his home community. He thinks he has been provided with all aids he requested from the VA.

Mr. F.

Did not fill out the questionnaire. A letter from his wife advised that Mr. F. is totally blind and that he had had a little training in a rehabilitation center 4 or 5 years before. She said he sits at home all day every day and keeps the rest of the family upset all the time. She feels her husband must be motivated to return to a center for further training. She advised that the VA had supplied her husband with all the things he seemed to need but he refused to use any of them. Hers is a very real appeal for practical help and this case was referred to the BVA Field Representative.

Mr. B.

In his late 30's, Mr. B. served in the Navy, is partially sighted, has loss of hearing in both ears, has facial injury and disfigurement. Mr. B. had some college before military and received a college degree after military provided by the VA. He is continuing his education toward a higher degree. He is married and has dependent children. Mr. B. is indignant at not being able to get a job and asks for more opportunity for unbiased employment in industry or government. He resents being called disabled or treated that way. He considers himself "modified" rather than disabled. He wrote: "Research should be directed at the employers of this country, to catalogue and print out this 'closed door,' pat-on-the-back, buy-you-a-drink-and-get-out policy of hiring disabled (modified) veterans—not screening the vet to make him more acceptable to the employer. Tokenism doesn't only affect the blacks and females in this area. We, all of us, are not non-producers, we can and will work at our individual talents. We are veterans of an American service, wounded in combat, modified by our physical limitations, and damned anxious for an end to the idea that military retirement is another name for 'the dole'." Mr. B. not only makes a point for himself, but in a very literate way is seeking to end discrimination for all veterans of the Vietnam war who came back wounded, asking only for a chance at rehabilitation and a further chance to make it on their own in suitable employment. Mr. B. is a member of the BVA.

Mr. T.

In his 40's, Mr. T. served in the Army and is totally blind. He listens to radio and television and uses talking books when he can get them. In response to the question asking if the VA had provided him with all the necessary aids to help him cope with his blindness, Mr. T. replied "They keep taking my money. If they could make me see they can have it all." Answering the question regarding increased veterans' compensation he wrote "Should raise with the cost of living, every dime of it, and stop trying to take away what you get."

Mr. G.

In his early 30's, Mr. G. served in the Army, is partially sighted and is able to travel without cane or dog guide. He suffered loss of hearing in both ears, facial injury and disfigurement, and has a heart condition. He is presently in college working toward a degree. In response to the question as to whether the VA had provided him with all necessary aids to cope with his blindness, he said "I don't know because I am constantly finding out things I can get to help me but was not informed by the VA. They will get it if I ask but I don't know what to ask for. (For example, the TV, I never knew I could get one if I needed it.")

Mr. M.

In his 20's, Mr. M. served in the Army and is partially sighted. He advised that what he found most difficult about his disability is getting work. He further advised, in response to the question as to whether the VA had provided him with all necessary aids to cope with his blindness as follows: "VA man in _____ is no help whatsoever. He acts as if you get what you need, O.K., if you don't it's still all right with him."

Mr. J.

In his 20's, Mr. J. served in the Army, is partially sighted, both legs amputated above the knee. He has a high school diploma but hopes to have further education. In response to what has been most difficult thing about his disability he replied "NO DAMN JOB!" In answering the question as to what special problems his blindness caused he wrote "can't tell where curbs and such are in wheel chair and dump out." As to his plans for the future he says "being raised on a farm and loving the outdoors, my blindness has stopped me from continuing to work on a farm, but then so has my wheelchair."

Mr. R.

In his late 20's, Mr. R. served in the Army and is totally blind. In response to the question regarding impairments other than blindness he filled in "alcoholism." Mr. R. received a law degree after military service, schooling provided by the VA. He is divorced and lives alone. He advised that he cannot get along well on his present compensation because he "needs more money for booze."

Mr. W.

In his 20's, Mr. W. served in the Air Force. He has some useful sight but needs a long cane for travel. In response to the reference that blind men should be expected to work like anyone else, Mr. W. wrote: "There are many jobs he can't do, like being a truck driver, but what he can do he should do his best. I try to show my relatives and friends that I can do many tasks yet, only now I am slower and more uncertain of each move I make." Other remarks made by Mr. W. were: "A sighted person looks at the speaker so it's just as important for us to do the same. We must look like a person and not a zombie." With regard as to how well he keeps up with what is going on in the world now and before he was blinded he said: "If not more so, because now I have the time to stop and listen. Before, it was hurrying from place to place and not seeing anything around me." He also remarked that now he has the virtue of patience, something he didn't have before.

Mr. Y.

Birth date not listed. Mr. Y. served in the Army and is partially sighted. High school not completed before military but received a high school diploma after military, the schooling provided by the VA. In response to the question regarding outside activities Mr. Y wrote: "I am in prison. They are trying to rehabilitate me. But I can't see how!" In answering the question regarding his job situation he said he wanted advanced training and more education "if and when I get out of prison. Get some vocational training. I am lost in here!" (After filling out the questionnaire, Mr. Y. forwarded it to a State Library for the Blind and Handicapped. They sent it on to us saying that now they have his address they are resuming his talking book service).

Mr. S.

In his 30's, Mr. F. served in the Navy and is partially sighted. He received a high school diploma after military, the schooling provided by the VA. He said that "blind men should be given a chance to earn a decent living, so they can feel like men." He also said his wife had to take over many of the duties usually done by the head of the household. His wife appended the following note to the questionnaire: "There should be some type of counseling available for the wives of newly blinded veterans. This is a neglected, yet very real and important factor in the readjustment of life situations for these men. Family service agencies are not equipped to furnish the answers to these particular problems. The services available to the veteran are great—but what about the wife who must stand beside him and give support?"

Mr. L.

In his 20's, Mr. L. served in the Air Force and is not totally blind, having some light perception in his left eye. Although Mr. L. did not list any impairments in addition to his blindness, in the question asking if he travels out of his home alone he replied: "Can't walk and manage by myself. I'm in a wheelchair provided by VA." Further in the questionnaire he stated that the VA had not yet provided him with the necessary sensory aids to help him cope with his blindness. Mr. L. is in a nursing home.

Mr. V.

In his 30's, Mr. V. is totally blind and has suffered facial disfigurement and scars. He has a college degree but does not consider himself ready or willing to work, saying: "It's not worth while . . . any work I might do would not be financially gainful." Mr. V. engages in activities organized by a state society for the blind, and does volunteer work with cub scouts and Indian guides. He received his training in the use of the aluminum cane from a state agency for the

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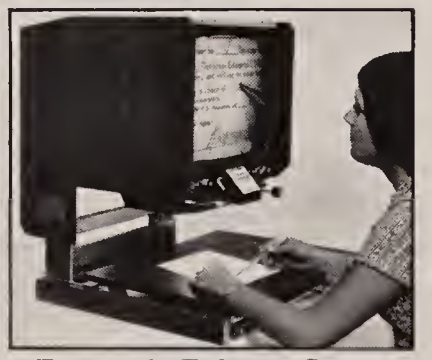
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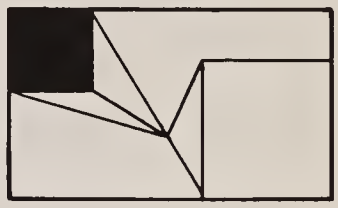
blind and has not requested any equipment of any kind from VA, advising that he has provided his own. He said the most difficult thing about his disability is a mobility problem, acquiring communication skills and attitudes of other people. Mr. V's wife is also blind.

Mr. H.

In his 20's, Mr. H. served in the Marine Corps and has regained some vision. He has loss of hearing in one ear. Both legs are amputated above the knee. Mr. H. is in college as a full time student and is working toward a degree in clinical psychology. He has received whatever items he has known about and asked for from the VA but was not aware of the availability of CCTV. He said he is totally independent, the head of his household and "does not and will not put up a front for anyone, I am what I am." In answer to the question that all blinded veterans' compensation should be increased so they and their families don't have to work, he wrote:" "One's life would become a _____ existence."

Mr. Robinson is a research associate, specializing in social and statistical research, American Foundation for the Blind.

Letters to the Editor



To the Editors:

In response to your article in the February issue of the *New Outlook* entitled "The Practice of Guide Dog Mobility in the United Kingdom," I feel constrained to make a few brief comments. I should point out that as is true of most "letters to the editor," this one comes from a person who is by no means unbiased. I am a dog guide user now and have been for 27 years. In addition, I have other connections with a specific dog guide school, The Seeing Eye, in that I am now a member of its Board of Trustees. It is, however, as a user that I am making my comments.

It is always difficult to compare activities between countries—conditions vary markedly. Even between two countries as similar as the United Kingdom and the United States of America, subtle but important differences exist. Still, I do feel that much of the experience that I have gained as a user of a dog guide and my feelings on this subject are still applicable.

At a time when the old, overbearing paternalistic attitude towards the handicapped in general, and the blind in particular, is finally being set aside, it seems somewhat anachronistic that there is still such an emphasis on the part of the Guide Dogs for the Blind Association (GDBA) on such elements as a feeding allowance, free veterinary service, acclimatization to the home by a trainer, etc. Further, the comment that every potential dog guide user must sign an agreement that specifies conditions under which the dog guide can be taken away, indicates to a certain extent this continuing paternalistic view of the blind.

If all that the blind can do are menial jobs, and at the same time they are assumed to be less than fully endowed mentally, then such an attitude might be justified. On the contrary, this is not the case! The blind, if such a term can validly be used, constitute a true cross-section of the population of whatever country they reside in. We find those that are not too well endowed mentally and others that are as mentally acute and alert as their sighted counterparts. What can be said with some certainty, however, is that those applying for the use of a dog guide and who can subsequently become dog guide users, form a somewhat select population. For the most part they are relatively active adults in the range of 18 to 50 years of age, in the case of UK, and older than that based on the article. In this country, the age range of dog guide users is somewhat broader.

I think it is fair to say that as a professional I would find it most difficult to operate as an individual under some of the constraints and "help" provided by GDBA. This would certainly have been more true during my professional development. At that time, when I was trying to prove to myself and to others that I was capable of doing a professional and highly technical job, it would have been disheartening to have to argue against receiving stipends that I did not need, acclimatization to a home town that I already knew well, and most of all having to sign away my ownership of a dog—the dog that acts not only as guide but as physical and emotional liberator. It may well be that conditions in the UK and the USA are so dissimilar as to make these variations mandatory, but I doubt it.

Although it was not mentioned in the article, UK's animal quarantine policy would make my life as a professional most difficult were I living in that country. Not only could I not bring my dog guide into the country but, were I to get one from GDBA, I would have to stay within the UK and therefore, although UK has joined the European Common Market, as a professional I would still be on an island.

Edward L. Glaser
Case Western Reserve University
Cleveland, Ohio

To the Editors:

Dr. G. R. Friedman in his article "The CCTV Reading System: Fact or Fiasco" was biased, misinformed, and indicative of self-interest in respect to benefits gained by the use of electronic visual aids.

The CCTV Reading Systems are an aid, not a panacea, and are promoted as such by responsible manufacturers in the industry. As with any tool for partially sighted individuals, it has limitations. (For example: no one can deny the benefits derived



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from telescopic lenses; but these have serious limitations due to depth of field, the need for strong lighting, and limited time of use due to eye fatigue.)

Nearly every detraction regarding CCTV reading machines mentioned by Dr. Friedman has been solved long ago by Apollo Lasers, Inc. In fact, a recent survey of hundreds of our customers indicates a very strong satisfaction with our electronic visual aids. Dr. Friedman should not dismiss aids because they have limitations; rather, he should learn to make use of them within their limits. In this way, we can all help those with visual handicaps to better realize their potentials

David M. Swerdlin
National Sales Manager
Apollo Lasers
Los Angeles

To the Editors:

As that individual at the Massachusetts Commission for the Blind (MCB) most responsible for the purchase of sensory aids, including CCTV reading systems, I feel it is imperative that I comment on the conjectures forwarded in a recent issue of the *New Outlook* as to why MCB has suspended purchase of CCTV systems.

It was not because those brought were ". . . irrationally designed experimental CCTV system(s) that proved to be virtually useless," as Dr. Genensky has put it, nor is it because of the mechanical problems associated with our experimental models. Rather it was a concern over the problem of selecting individuals for the device that has led to temporary suspension of purchases. Our experience with field testing CCTV's has indicated that only those individuals who are highly motivated to read, and for whom personal reading is a major component of their life style, be it vocational or otherwise, will use the device to an extent to justify its cost. The field testing did not just include those devices incorporating incremental scanning (developed by P. Davis), but in fact the greater number of the devices were prototypes very closely resembling the commercially available devices employing hand-operated X-Y tables.

I must take exception with the opinions of Dr. Genensky and Mr. Israel that Mr. Davis's design was irrational and proved

unusable. There is at least one young woman in this state who has been utilizing a Davis incremental scanner daily for over three years with but one service call in that entire time. She has both seen and used both methods of scanning and unequivocally prefers the Davis method.

The concept of automating the scanning function of the reading device was implemented by both Mr. Davis in his incremental scanner and Dr. Genensky in his Randsight II machine. The design approaches that were selected differed considerably; Mr. Davis's emphasis was on minimal cost and simplicity and Dr. Genensky's on the utility of the device.

There is no conclusive evidence to indicate that these methods are not viable or unworthy of further exploration and I too believe that the company that shows the initiative in the areas of design improvement and extension of utility will ultimately be the survivor in the marketplace.

John H. Robichaud
Specialist in Sensory Aids
Commission for the Blind
Boston

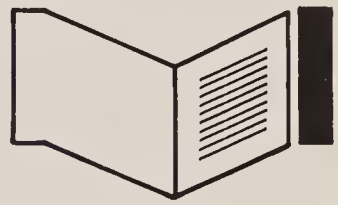
To the Editors:

The 70 blind students at Southern Illinois University at Carbondale have organized in order to attain the special services they need to gain their educational goals. The Concerned Blind Students Organization (CBSO) has acquired a resource room for aids and appliances and a student worker specifically for their needs. In addition, CBSO has its own budget which provides social and travel funds, as well as assisting in reading services and other related needs. The group was founded by Francis Ambrose.

We are seeking to survey colleges and universities to learn what other students are doing, and what organized bodies have done and are doing, in order to attain the rights of blind students. The educated blind students are our nation's future, for it is in their hands what and where the blind will go. Inquiries and information from blind college and university students are solicited; this correspondence may be in braille, tape, or print.

Arthur L. Jackson, President
Concerned Blind Students Organization
Southern Illinois University
Carbondale, Illinois 72901

Current Literature



A report of significant new additions to the Migel Memorial Library of American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

Planning Services for the Blind for the Decade of the '70's: Final report of a conference held at Holiday Inn of St. Louis-Northeast, Hazelwood, Missouri, March 25-28, 1973. Western Michigan University (Department of Blind Rehabilitation, Kalamazoo, Michigan 49001), [197?], vi + 149p. Co-directed by Professor Donald Blasch and Dr. George G. Mallinson, the conference covered such areas as: Services to the Older Blind; Vocational Training and Job Placement; Research in the Development of Hardware; and Manpower Needs and Personnel Training in Education and Rehabilitation of the Visually Handicapped.

John Tracy Clinic Correspondence Learning Program for Parents of Preschool Deaf-Blind Children. John Tracy Clinic (806 West Adams Boulevard, Los Angeles, California 90007), 1973, sections individually paged, illus. $9.50. The Learning Program has been made available in book form as a professional resource. The lesson format covers all aspects of the development and education of the deaf-blind child.

The Blind in Society and **Blindness, A New Seeing of the World,** by Jacques Lusseyran. The Myrin Institute, Inc. (Waldorf School, Cambridge Avenue, Garden City, New York 11530), Proceedings, Number 27, Fall 1973, 32p. $1.00 plus 25¢ for postage and handling. Translations (from the German) of two articles about one man's personal experience of blindness. The author, a college professor who was killed in an automobile accident in 1971, lost his sight at the age of eight. His autobiography, *And There Was Light,* was published in 1953.

So What About Sewing, by Adele Brown. Large type edition. The Catholic Guild, Services for the Visually Impaired (67 West Division Street, Chicago, Illinois 60610), [197?] 3 vols. $8.00. The author, a blind homemaker, has developed her own techniques for both hand and machine sewing that have worked for her and for many of her students over the past 20 years.

A Choice of Poems and Pictures; "My Cup Runneth Over," by Merrill A. Maynard. Presidential Printing (42 Court Street, Taunton, Massachusetts 02780), 1973, 55p. A selection of poems together with line drawings and color reproductions of paintings by Mr. Maynard, the blind artist from Taunton, Massachusetts.

Blindness and Its Meaning; A Need to Serve, by Larry D. Baker. *Journal of the American Optometric Association* (7000 Chippewa Street, St. Louis, Missouri 63119), Vol. 45, No. 4, April 1974, pp. 447-450. Dr. Baker, an assistant professor in the School of Business Administration, University of Missouri, St. Louis, relates some of his personal experiences as a blind person encountering the prejudices of the sighted world.

Problems of Employment for the Visually Handicapped, by Robert W. Bischoff. *The Utah Eagle* (846 Twentieth Street, Ogden, Utah 84401), Vol. 85, No. 6, March 1974, pp. 1, 7-9. The author is the principal of the Utah School for the Blind.

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A Boon for the Blind. *Performance* (The President's Committee on Employment of the Handicapped, Washington, D.C. 20210), Vol. 24, No. 10, April 1974, pp. 4-6. Brief description of the program and activities of the Industrial Training Laboratory for the Blind in Daytona Beach, Florida.

Being Deaf-Blind Is Like This, by Arthur Sculthorpe. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London WIN 6AA, England), Vol. 58, No. 683, March 1974, pp. 57-62. Text of a speech given before a social services staff seminar. The author, himself deaf-blind, was general secretary of the National Deaf-Blind Helpers' League in Great Britain, from 1950 until his death in January 1974.

Technical Aspects of Coaching Blind Sportsmen, by D. P. G. Teager. *The New Beacon* (see address above), Vol. 58, No. 683, March 1974, pp. 66-68. Paper presented at the first National Conference on Sport for the Disabled held in England in November 1973. The author is principal of the RNIB's School of Physiotherapy.

Skiing for the Blind, by H. H. Cohn. *The New Beacon* (see address above), Vol. 58, No. 683, March 1974, pp. 68-70. Article reprinted from *Ski Survey*, December 1973, published by the Ski Club of Great Britain. The author, who is blind, has been skiing for four years. He reports on various courses for the visually handicapped in France, Switzerland, Germany, Austria, and Norway.

Mobility Maps: The Choice of Symbols, by J. M. Gill and G. A. James. *The New Beacon* (see address above), Vol. 58, No. 682, February 1974, pp. 35-38. Presentation of a set of mobility map symbols adopted after extensive evaluation for touch discrimination and ease of interpretation.

Searching Tactual Space, by Edward Berlá and Marvin J. Murr. *Education of the Visually Handicapped* (Association for Education of the Visually Handicapped, Inc., 1604 Spruce Street, Philadelphia, Pennsylvania 19103), Vol. 6, No. 2, May 1974, pp. 49-58. A tactile pseudomap was designed and tested with 144 braille readers enrolled in schools for the blind. Sixteen subjects from each of grades 4 thru 12 participated. The pseudomap used point, line, and textured areal symbols.

Use of Behavior Modification Procedures With Visually Handicapped Students, by Sue-Ann Roades, Lillian Pisch, and Saul Axelrod. *Education of the Visually Handicapped* (see address above), Vol. 6, No. 1, March 1974, pp. 19-26. Detailed report on two case studies indicating that behavior modification procedures can be used to further the tactile and motor development of visually handicapped students.

Classroom Use of the Braille Code Recognition Materials, by Roy J. Brothers *Education of the Visually Handicapped* (see address above), Vol. 6, No. 1, March 1974, pp. 6-13. Report on the research project to develop an instructional kit which would prepare teachers to use the Braille Code Recognition materials. The BCR materials and the instructional kit developed by the Michigan State University Instructional Materials Center are currently in production at the American Printing House for the Blind.

Use of Geoboards to Teach Mathematics, by Marion Walter. *Education of the Visually Handicapped* (see address above), Vol. 6, No. 2, May 1974, pp. 59-62. Geoboards, invented by C. Gattegno, are boards with nails in them, on which children can stretch rubberbands to make patterns and shapes. The author, a research associate at Children's Hospital Medical Center in Boston, describes how they can be used for a variety of mathematical activities.

A Summer Program for College Bound Students, by Peter Rossi and John Fagan. *Education of the Visually Handicapped* (see address above), Vol. 6, No. 2, May 1974, pp. 44-48. Report on the precollege preparation program conducted by the New Jersey Commission for the Blind and Visually Impaired. The program, started in the late 1950's, since July 1969 has utilized an actual college location.

A First in Tennessee, by Jack Moran. *Tennessee Public Welfare Record* (Tennessee Department of Public Welfare, 410 State Office Building, Nashville, Tennessee 37219), Vol. 37, No. 2, April 1974, pp. 34-36. Brief description of a new cooperative program to aid visually impaired college students. Middle Tennessee State University is providing campus office space, utilities, and secretarial assistance. The Department of Services for the Blind is providing office equipment and special equipment for the blind students such as an MIT Braillemboss, a speech compressor, etc. The Department has also assigned a full-time rehabilitation counselor to the campus.

The Optacon at Firsthand, by Fred Gissoni. *Dialogue* (3100 Oak Park Avenue, Berwyn, Illinois 60402), Vol. 13, No. 1, Spring 1974, pp. 57-61. The manager of the Kentucky Rehabilitation Center for the Blind relates his personal experiences in using the Optacon.

The Right Book for the Right Reader, by Florence Grannis. *The Braille Monitor* (National Federation of the Blind, 2652 Shasta Road, Berkeley, California 94708), May 1974, pp. 238-245. Suggestions by Mrs. Grannis, who is assistant director in charge of Library and Social Services, Iowa Commission for the Blind, concerning book selection policies.

Alexander Scourby: A Man for All Seasons, by Jim Burns. *The Braille Monitor* (see address above), June 1974, pp. 278-280. Biographical sketch of the popular actor who has recorded approximately 400 talking books.

Voluntary Action in the Rehabilitation of Blind Persons, by John G. Cull and Richard E. Hardy. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Illinois 60612), Vol. 35, No. 4, April 1974, pp. 107-109. Discussion of the five major areas in which volunteers can make basic contributions. These areas are: preschool vision screening; library and textbook centers; rehabilitation teaching; vocational rehabilitation programs; and various special projects.

Model Environmental Setting Planned. *The Kentucky Colonel* (Kentucky School for the Blind, 1867 Frankfort Avenue, Louisville, Kentucky 40206), Vol. 29, No. 9, June 1974, pp. 28-33. Description of a proposed model environment area of ap-

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proximately 80 square feet to be constructed at the Kentucky School for the Blind. The area is to be divided into four sections, representing urban, suburban, rural, and natural environments.

A Journey Into the World of the Blind Child, by John G. Kephart, Christine P. Kephart and George C. Schwarz. *Exceptional Children* (The Council for Exceptional Children, Jefferson Plaza Suite 900, 1411 S. Jefferson Davis Highway, Arlington, Virginia 22202), Vol. 40, No. 6, March 1974, pp. 421-427. Comparative study of 37 sighted public school children and 49 blind children in residential centers, aged five to seven, based on responses to the Kephart Scale. The Scale was developed by the first two authors as a means of assessing the personal and environmental awareness of blind children.

Somatosensory Enrichment of a Deaf, Blind, Retarded Adolescent Through Vibration, by Gordon W. Halliday and Joseph H. Evans. *Perceptual and Motor Skills* (Box 1441, Missoula, Montana 59801), Vol. 38, No. 3, Part 1, June 1974, p. 880. Brief report on a study investigating the effect of vibration on the smiling behavior of a deaf-blind, severely retarded, non-verbal, and non-ambulatory adolescent girl.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Agency Administration

A Handbook of Human Service Organizations, edited by Harold W. Demone, Jr., Ph.D., and Dwight Harshbarger, Ph.D. Behavioral Publications (72 Fifth Avenue, New York, N.Y. 10011), 1974. 624p. $19.95. An anthology of studies and discussions of human services problems and research, including environmental forces acting on human services, roles and role problems, tactics and planning strategies, assessment techniques, and modern automatic data systems and information processing.

Architecture

Barrier Free Design: A Selected Bibliography, by Peter Lassen. Paralyzed Veterans of America, Inc. (7315 Wisconsin Avenue, N.W., Suite 301W, Washington, D.C. 20014), 1974. 103p. Contains references under 22 headings, including standards and specifications, human factors, planning, housing, transportation, and bathrooms and kitchens.

Attitudes and Adjustment

Emotional Issues in Raising Handicapped Children, by Elva O. Poznanski, M.D. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 West Ogden Avenue, Chicago, Ill. 60612), Vol. 34, No. 11, November 1973, pp. 322-26, 352. A discussion of the problems faced by the parents of physically handicapped and of mentally retarded children, including adjustment to the fact that the child is handicapped, expressing feelings, overprotection, institutionalization, and the effects on siblings. (Reprints from the author at Childrens Hospital, University of Michigan Medical Center, Ann Arbor, Michigan 48104.)

Your Handicap—Don't Let It Handicap You, by Sarah Splaver, Ph.D. Julian Messner (1 West 39th Street, New York, N.Y. 10018), revised edition, 1974. 224p. $5.79. This book, which is aimed at the handicapped young person, includes discussion of adjustment to the handicap, education, and career planning; there are also chapters on visual, aural, orthopedic, and somatic handicaps. Includes lists of resources for further information and literature on disabilities and rehabilitation.

Education

Developing Instructional Materials for the Handicapped: Guidelines for Preparing Materials for Wide Distribution, by John C. Belland and Sidney Rothenberg. National Center on Educational Media and Materials for the Handicapped (Ohio State University, 220 West 12th Avenue, Columbus, Ohio 43210), 1973. viii + 50p.

Pamphlets

A New Look at Confidentiality in Social Welfare Services. The National Assembly for Social Policy and Development, Inc. (345 East 46th Street, New York, N.Y. 10017), 1974. 16p. 25 cents (quantity rates available). The Assembly's official statement, approved by its Board of Directors on November 27, 1973.

A new pamphlet on the Veterans Administration's Civilian Health and Medical Program, or CHAMPVA (VA Information Bulletin 13-6), furnishes detailed information on eligibility, medical services, and methods for filing claims. Copies are available at all VA hospitals, clinics, domiciliaries, and regional offices, at the veterans' assistance centers, nationwide, and at U.S. embassies and consulates overseas.

Blindness Prevention . . . A New Service of the American Foundation for Overseas Blind presents the organizational policy and conditions under which the Foundation provides technical assistance to governments and agencies in the international field in their programs to prevent blindness. The pamphlet, which is designed for world-wide distribution to professionals working in the field of blindness prevention, including international governmental and non-governmental officials in the health and social service fields, is available free upon written request to the Public Education Division, American Foundation for Overseas Blind, 22 West 17th Street, New York, N.Y. 10011.

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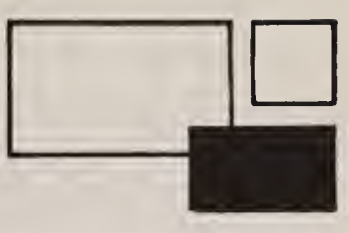
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In Brief



■ The Cleveland Society for the Blind's new Business Enterprises and Work Training Center is now in operation. The new building, which also houses the Food Services Division, is at 2275 East 55th Street, Cleveland. Formal dedication ceremonies were held May 16, 1974.

■ The Rand Corporation, with the cooperation of the Santa Monica (Calif.) Unified School District, is conducting a three-year, $500,000 study on "Information Transfer Problems of the Partially Sighted." The study is being supported by the Social and Rehabilitation Service of the U.S. Department of Health, Education, and Welfare. For more information, write The Rand Corporation, 1700 Main Street, Santa Monica, California 90406.

■ "Customs Hints for Returning U.S. Residents," is now available in braille. Copies can be obtained at all regional offices of the United States Customs Service.

■ The Industrial Home for the Blind, Brooklyn, will train up to 30 visually handicapped residents of New York State as switchboard operator-receptionists. The training program, which will use a light-sensitive probe developed by a New York Telephone Company engineer, is being funded by the U.S. Department of Health, Education, and Welfare.

The new probe being used in this training program will allow visually handicapped operators to use advanced push-button switchboards.

■ A new course from The Hadley School for the Blind, available free in braille or on cassette, deals with the development and improvement of listening skills. For more information about this new ten lesson course write, the Registrar, Hadley School for the Blind, 700 Elm Street, Winnetka, Illinois 60093.

■ The National Braille Press has announced that the registration fee for both the braille and the print editions of *The Rehabilitation Teacher* will be raised to $5.00, effective January 1975.

■ Kansas State University, Manhattan, has introduced a course for architectural students which deals with site analysis and design to accommodate the handicapped.

■ The International Clearing House for Educational Visits and Exchanges will provide handicapped persons planning foreign trips with information on transportation, travel facilities, access, and medical facilities around the world. For more information, write Karen Newbury, The Central Bureau for Educational Visits and Exchanges, 43 Dorset Street, London W1H 3FN, England.

■ Wanting "to prove that blind and partially sighted people can be a productive force in enriching our community's life," the Pennsylvania Blind Concessioners has donated $3,010 to a fund to expand Dauphin County (Pa.) Library System services for the sighted.

The Dauphin County system does not now have services for the visually handicapped but current expansion plans call for implementation of services for the handicapped in the near future.

■ Jeffrey Norton Publishers Inc. has just issued the JNP audio Tape Library Catalog. The catalog contains more than 4000 entries divided into subject areas including education, the arts, business, careers, law, history, literature, philosophy, political science, psychology, religion, science and technology, and sociology.

Tapes are available on cassette and open reel, generally for $11.75. Catalogs are free on request. For more information, write Jeffrey Norton Publishers Inc., 145 East 49th Street, New York, New York 10017.

■ The Commonwealth Opportunity Fund has recently been established to provide blind children now at school in British Commonwealth countries in Africa with opportunities for higher education. The Fund, which is being administered by the Royal Commonwealth Society for the Blind, was established with an initial gift of £50,000 from trustees who wish to remain anonymous. Sir Walter Adams, principal of the London School of Economics, is chairman of the Fund's Advisory Committee.

Current plans call for the Fund to assist in the provision of special equipment and teaching aids, the establishment of special annexes for blind students at regular high schools and the necessary technical guidance for their staffs.

■ Blind Industries and Services of Maryland is operating a mobile eye clinic in counties of that state that are not regularly served by ophthalmologists. The clinic is being funded by the U.S. Department of Health, Education, and Welfare.

■ The new address of Telesensory Systems, Inc., manufacturer of the Optacon, is 1889 Page Mill Road, Palo Alto, California 94304. The telephone number is unchanged, (415) 493-2626.

■ Lucian Louis Watts, 85, executive secretary of the Virginia Commission for the Blind from its founding in 1922 until 1956, the founder of the Virginia Association of Workers for the Blind, and a four-term member of the Virginia House of Delegates (the only blind person to hold a seat in the Assembly), died on April 30, 1974, at his home in Richmond.

■ Edward W. Tillinghast, superintendent of the Arizona State School for the Deaf and the Blind since 1941, retired from that post in August.

■ The Xerox Reproduction Center (5185 MacArthur Boulevard, Washington, D.C. 20016) has been established to provide assistance to partially sighted persons. It specializes in large print books and other printed materials designed for assisting special education groups. The service entails reproducing large type copies of any textbook used in a school system. The books are in a compact 8½ by 11-inch size, but with the text enlarged to twice the original size. The cost of the service is 20 cents per page and completed books can be supplied in four to six weeks from receipt of the original book from which the copies are to be made.

Appointments

■ Carroll Rehabilitation Center for the Visually Impaired: **Paul J. Cifrino,** executive director; **Jeffrey Babington,** coordinator of rehabilitation services and acting director, St. Raphael's Geriatric Adjustment Center.

■ National Conference on Social Welfare: **Norman V. Lourie,** president-elect.

■ The Lighthouse, New York Association for the Blind: **Michael F. Parker,** director of the department of rehabilitation-educational services.

■ Chicago Lighthouse for the Blind: **Christine Heilman Bakalar,** fund raising coordinator.

■ Center for the Blind (Philadelphia): **W. Harold Bleakley,** president.

■ National Accreditation Council: **Richard W. Bleecker,** executive director-designate (executive director effective January 1, 1975).

Awards

■ Maryland Blind Worker of the Year: **Richard Swales,** vocational evaluator, Blind Industries and Services of Maryland.

■ Louis Braille Award of Center for the Blind, Philadelphia: **Harold G. Scheie, M.D.,** chairman, department of ophthalmology, University of Pennsylvania School of Medicine.

■ Kiwanis International radio award: **Reverend Boniface L. Wittenbrink, O.M.I.,** executive director, "The Radio Talking Book for the Blind and Physically Handicapped," WMRY, Belleville, Illinois.

■ Dr. Richard Kinney Challenge of Living Award of the Hadley School for the Blind: **Geraldine Lawhorn,** member, committee on the deaf-blind, American Council for the Blind.

■ Bartlett Award of the President's Committee on Employment of the Handicapped and the American Institute of Architects: **Wolf Associates,** architectural firm of Charlotte, North Carolina, for the design of the North Carolina National Bank of Charlotte.

■ Francis I. Proctor Award of the Association for Research in Vision and Ophthalmology: **Dr. Jin H. Kinoshita,** chief of the laboratory of vision research, National Eye Institute.

■ Physician of the Year Award of the President's Committee on Employment of the Handicapped: **John W. Claiborne, Jr., M.D.,** director, Veterans Administration Hospital, Houston, Texas.

■ Kingdom of Iran, Ministry of Education, special commendation medal: **Frances Wiesenfeld,** Miami, Florida (presently on assignment in Senegal), teaching consultant, American Foundation for Overseas Blind.

■ Francis Joseph Campbell Award of the Round Table on Library Services to the Blind, American Library Association: **Jennings Randolph,** U.S. Senator from West Virginia.

■ Bucknell University, Lewisburg, Pa., honorary degree of Doctor of Humanities: **Arthur L. Brandon,** retired educational administrator and former president of the National Accreditation Council.

Correction

In the From the Field column of the June 1974 issue of the *New Outlook* (page 283), entitled "Laws Governing the Mandatory Reporting of Blindness by Physicians," the State of New York was listed under the states not having laws making such reporting mandatory. The consultant on medical services of the State Commission for the Visually Handicapped has since informed us that the reporting of blindness and severe visual impairment by physicians and optometrists is mandatory in New York.

Coming Events

October 6-10 International Senior Citizens Association, Sixth Biennial Congress ("Senior Citizens in Social Action"), Los Angeles.

October 14-18 National Rehabilitation Association, National Conference, Las Vegas.

October 15 White Cane Safety Day.

October 18-25 American Occupational Therapy Association, Washington, D.C.

October 20-25 National Recreation and Park Association, Denver.

October 24 American Foundation for the Blind, Foundation Day, New York City.

October 28-November 1 Gerontological Society American Geriatrics Society, 27th Annual Scientific Meeting ("Aging and Intervention"), Portland, Oregon.

October 30-November 1 American Association of Workers for the Blind, Mid-Atlantic Region Convention, Philadelphia.

November 3-6 Sixth Annual Midwestern Behavior Modification Workshop/Intensive Practicum Workshop, Chicago (contact: Joan F. Bassinger, M.D., P.O. Box 597, Libertyville, Ill. 60048).

November 6-12 American Nursing Home Association, 25th Anniversary Annual Convention, Honolulu.

November 17-20 American Society of Allied Health Professions, New Orleans.

1975

January 14-15 National Braille Association, Regional Meeting and Workshops, St. Petersburg, Florida.

April 20-26 Council for Exceptional Children, 53rd Annual International Convention, Los Angeles.

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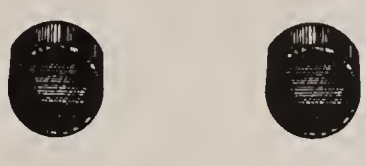
CATALOGS

Optacon Catalog—products and services—a complete listing of Optacon Systems, Accessories, Training Course, and Training Material prices. Products are also pictured and described in detail. Write Telesensory Systems, Inc., 1889 Page Mill Road, Palo Alto, California 94304.

Aud-a-log, new 90-min. soundsheet catalog (8-1/3 rpm) of instruments for blind and visually limited. Free. SFB Products, 221 Rock Hill Rd., Bala-Cynwyd, Pa. 19004.

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These blind and visually handicapped students at the Colorado School for the Deaf and the Blind are members of the handbell choir described in an article by Mary Francis Lewis beginning on page 297. Chris Pierce, 15, also a member of the bell-ringing group, is shown on the front cover.



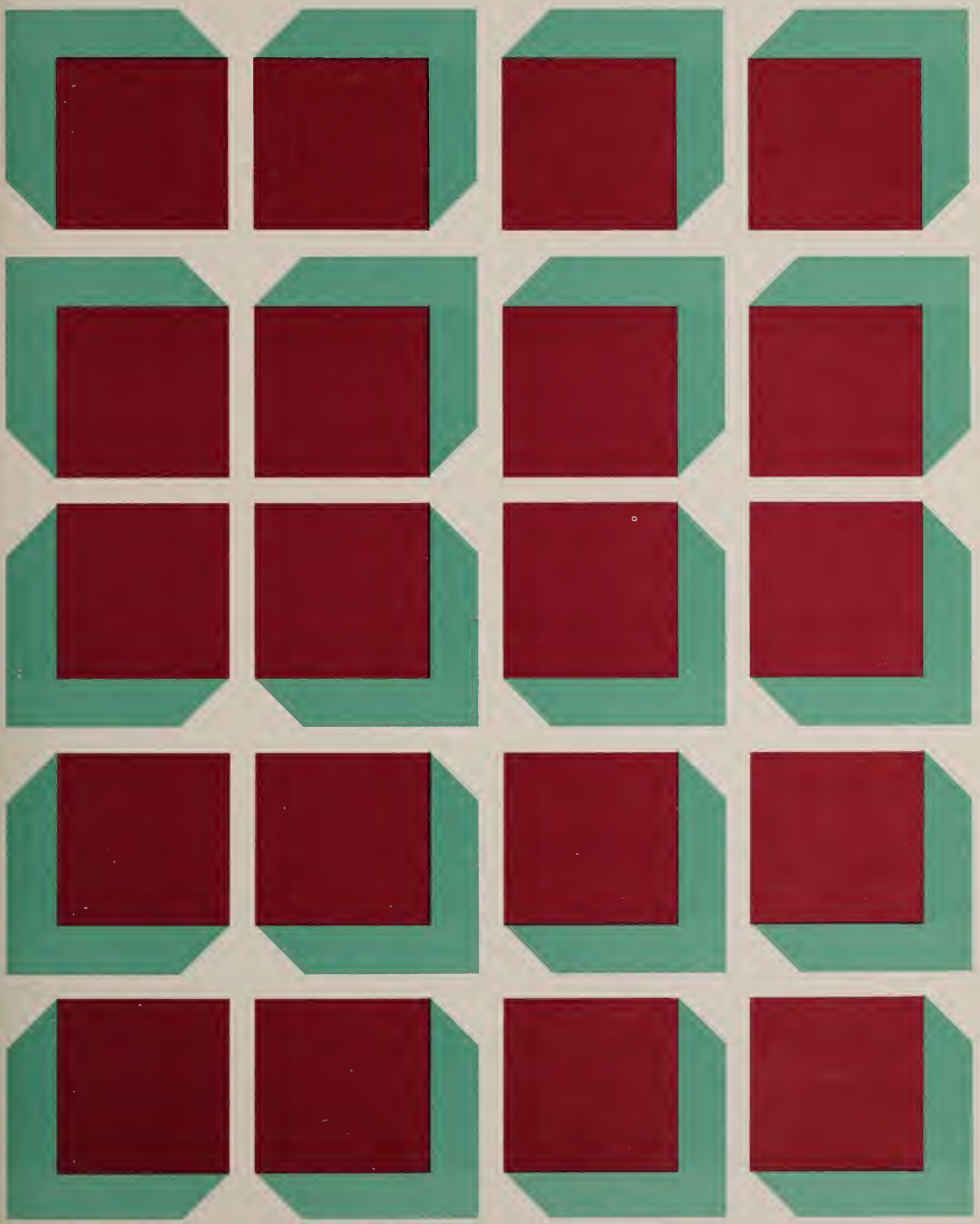
THE NEW
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Diana A. Wilson, Ph.D.

Ball Games for Visually Handicapped Children
R. E. Hartman

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Articles

337 Teaching Multiply Handicapped Blind Persons in a State Hospital
Diana A. Wilson, Ph.D.

344 Camp Challenge: Program for Parents and Their Preschool Children with Visual Handicaps
K. C. Sykes, Ph.D.

348 Ball Games for Visually Handicapped Children
R. E. Hartman

356 The Simulation of Age-Related Sensory Losses: A New Approach to the Study of Environmental Barriers
Leon A. Pastalan, Ph.D.

363 Listening Skills: A Review of the Literature
Kathryn M. Daugherty

Departments

373 Comment—Glenn S. Leavitt; Lea Levavi; Warren Bledsoe

379 Current Literature

382 In Brief

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Teaching Multiply Handicapped Blind Persons in a State Hospital

DIANA A. WILSON, Ph.D.

Dr. Wilson is a resident of Berkeley, California.

ABSTRACT: The multiply handicapped blind residents of state institutions are in need of an alternative program of education. The multiplicity of their handicaps makes it necessary to tailor a program for almost every individual. A compensatory education program for 14 blind retarded youths in a state institution is described. Teaching suggestions and guidelines are presented. Recreational skills are emphasized, not only to develop meaningful and enjoyable use of leisure time, but to combat the dehumanization so frequently found.

A look at the mentally retarded population in the state hospitals is sufficient to demonstrate the need for alternative programs. Overcrowded conditions permit little opportunity for the individual to grow and develop physically, mentally, and emotionally. The pathological aspects of leisure are tremendous, unless the individual can participate in meaningful activities. However, the most alarming danger in institutionalization is dehumanization.

Multiply Handicapped Students

☐ I was in charge of a group of 14 students in a California state hospital who were enrolled in a compensatory education program. All of the participants, six females and eight males, were under the age of 21, and classified as severely or profoundly retarded, and legally blind. The program was introduced in the hospital ward, of which these students comprised approximately one-third of the total population. All other residents of the ward were legally blind, and ranged in age between 22 and 38. Some essential learning aids were purchased, and a room served as a classroom.

New concept

Inasmuch as education of this group of the population is a recently developed concept, there were no instruments to use for measuring their developmental level or to predict the degree to which they would respond to learning. A set of five basic commands was used to determine their ability to understand receptive speech, but the outcome was less than gratifying because of the number of handicaps. The majority of the students was nonverbal, one was echolalic, two were thought to be autistic, two were thought to be deaf-blind, and the rest were deemed prenatally neurologically impaired.

No stereotype

There is no sterotype of the multiply handicapped child, but rather various combinations of physical, sensory, emotional, and mental handicaps. The following characteristics were attributed to most members of the group and many may be traced to institutionalization: 1) Very limited capacity to learn with insignificant academic levels. 2) Posture and gait problems common. 3) Mannerisms. 4) Poor social skills, and definite signs of immaturity. 5) Resistance to new experiences; happier with the familiar. 6) Hesitation to communicate orally. 7) Orientation and mobility instruction is lengthy compared with the normal blind.

McDade (1969) discovered similiar prevalent characteristics among the retarded blind, and concluded that early direction of their energies into positive activities might have prevented most of the aberrant behavior.

☐ Goals and directions had to be set for the group as a whole, and for its individual members according to their particular needs. Objectives were the development of communication and language skills to the highest possible potential of the individual, sensory-motor skills, orientation and mobility skills, daily living skills, and self-help skills.

Goals

Body image training was emphasized. A concerted effort was made to develop in the student a sense of identity; a discrimination between "I" and "You." *The Body Image of Blind Children* (Cratty & Sams, 1968) was used as a testing and then as a training instrument. Its five parts of body planes, body parts, body movements, laterality, directionality, proved most helpful in terms of gradual progress. To most students this training elicited frustration and resentment because their insecurity and apprehension made them not want to be touched.

Body image training

The broad objectives were subdivided into specific behavioral objectives consonant with, and suited to, the level of each student. Many approaches were tried and abandoned. As in all learning situations, the cooperation and interest of the student had to be secured.

Individual approach

☐ Musical instruments provide interesting stimuli to those whose auditory sense has not been seriously impaired. The fact that a person can hear does not necessarily mean that he also understands what he hears. When agnosia is present, an individual is able to hear perfectly well, but is incapable of processing what he hears. Agnosia is often mistaken for hardness of hearing or deafness. Such students may react by ignoring sounds entirely, or by responding to each new sound as a new experience requiring investigation.

Auditory Evaluation and Training

To evaluate auditory learning, the examiner must determine whether or not the student: 1) Heard the sound—recognition. 2) Knew what sound it was—identification. 3) Knew where the sound was coming from—localization. 4) Knew if two sounds were the same or different—discrimination. 5) Knew if two sequences were the same or different—sequentialization. 6) Could repeat a series of numbers or directions—memory. 7) Could think of words all beginning with the same sound—analysis. 8) Could listen to story or record—sustained auditory attention.

Criteria

Whether due to developmental problems, autism, agnosia, or other undetected factor, only one student of 14 was able to pass most of the items in the auditory test. However, auditory training was not, and should never be abandoned. In many instances it has proven very profitable in receptive communication. There is evidence that a nonverbal student is capable of responding to verbal communication, and although for psychological, physiological, or emotional reasons may not achieve expressive speech, is capable of developing sounds and clues to express needs, pleasure, and frustration.

Few passed

☐ The interdisciplinary team is composed of the team leader, the physician, the group leader, the activity leader, and the teacher. All are psychiatric technicians, except the physician and the teacher. The team meets regularly to review the program of each student. The student's needs and objectives are formulated, and implementation of the program is delegated to the various members. Physical, psychological, social, recreational, and educational needs

Interdisciplinary Team

and objectives are discussed and progress is evaluated. Orientation and training of team members is diverse, and conflicting priorities and approaches are often expressed. Compromises have to be made, with the interest of the student the determining factor in the final decision.

Make rules known

It is necessary to acquaint *all* hospital personnel with certain general rules by which the educational program is guided. These guidelines based on first-hand experience with the students are the basis of their sense of confidence and security.

Guiding the student

1. Make verbal as well as physical contact with a blind student.
2. If you call a blind student to come to you, remain in the same place until he comes to you.
3. Tell a blind student when you are going to leave him, and if necessary, make audible sounds with your feet.
4. When guiding a blind student in an unfamiliar place, have him take *your* arm. He will feel in control, assured of your presence until he is in familiar territory.
5. If doors are kept fully open or fully closed, and the environment is as free as possible from hazards, students will be encouraged toward greater mobility.
6. Acquaint the student with the environment. Describe verbally and demonstrate tactually the uses of furniture. If anything is moved or changed, he should be made aware of the changes verbally and physically.

Do not push or pull

7. Refrain from pushing or pulling a student to a place or activity. Inform him verbally of your intention.
8. Place a student's hand on the back or arm of the chair, and allow him to sit down unaided. Avoid pushing him into a chair.
9. Make a student aware of other people by telling him who else is in the room. Occasionally, place his hand on peers or members of the staff, and tell him who they are.
10. Always introduce yourself before touching a student. Vast, shifting numbers of people surrounding him make identification difficult.
11. Tone of voice is important. A positive tone of voice has a positive effect on the student's behavior, and a harsh or negative tone of voice results in negative behavior.
12. Learning continues from the cradle to the grave, regardless of mental, physical, or developmental handicaps. Time and effort should be given ungrudgingly to increase the ability of the students to cope with their environment.

Teaching Guidelines

☐ Teaching the multiply handicapped blind must be on a one-to-one basis, especially in the initial stages. The 14 students were divided into two groups, each group attending two-hour sessions. They were also engaged in other activities, and kept in contact with the staff a good part of the day. There were never more than six students in one activity. With a student assistant working with the teacher, the load was manageable. Guiding principles did not differ greatly from those followed in all learning situations, but goals were always short-ranged:

1. Success is of the essence, and objectives should be well within the range of ability.
2. Since these students are greatly inhibited and unmotivated, incidental learning is

not very likely to happen. Activity should, therefore, be structured step by step. The sequence should be followed systematically at the pace of the student, and not the ambition of the teacher.

3. The activity should be pleasurable and meaningful.
4. It is desirable to connect a new activity with a previous activity which provided the student with a sense of accomplishment and success. If he feels comfortable at just having performed an activity in which he excels, some failure in the new activity is tolerable, and greater capacity for enduring frustration is imparted.
5. Repeated demonstrations and explanations are necessary, in many instances, before comprehension is achieved.
6. Allow ample time and opportunity for practice in new activity.
7. Use remaining sensory powers effectively. If the student has residual vision, he can see the golden color of an orange. If not, one can point out the texture, size, shape, or smell of the orange. He can peel it, section it, and enjoy its juicy flavor.
8. Social as well as material rewards (food) should be given upon completion of a task. An effort put forth to do a given task or to examine an object should be duly praised and acknowledged.
9. The most commonplace objects, sounds, or locations readily understood by the average person may be utterly alien to the student. His comprehension of the environment should not be taken for granted. Each aspect of it must be dealt with. Awareness of natural phenomena such as wind, rain, grass, trees, or the difference between sun and shade, can be new and exciting experiences.

Behavior Modification

☐ Behavior modification techniques proved to be of value in the program. Positive behavior was praised and reinforced, and unacceptable or aberrant behavior was gradually replaced by more acceptable and more rewarding behavior.

Environmental stimuli were brought to the attention of a student, motivating him to take action. He was encouraged to trace the source of sound, to reach out and explore the object that was rubbed against his arm, to find out the source of the fragrance that invaded his nostrils. His efforts were doubly rewarded. These objects were always within reach, so he learned that he could control his enviroment.

Self-stimulation

Self-stimulation became less frequent, because some of the unfulfilled needs for sensory input were partially gratified. When a student indulged in rocking, head shaking, hand waving, or flailing of arms, instead of being told to stop the activity, an attempt was made to lure him away from this behavior by involvment with an enjoyable enterprise. Diversionary tactics were numerous: the placing of new or interesting objects in his hands, going for a walk, standing up and dancing to music, directing him to the shelf to select whatever he would like to work with.

Leisure

Not all mannerisms were eliminated, but the fact remains that they were measurably decreased in frequency. It must be repeated that the pathological aspects of leisure are exceedingly harmful unless the individual can participate in meaningful and enjoyable activities. An institutionalized multiply handicapped blind student should have access to toys, games, playground equipment, and a fenced in area where he can walk without aid or hindrance. The initial cost of these provisions is fully justified by long-term benefits.

Recreational skills become a matter of survival in the life of an institutionalized blind retardate. Since crowded conditions make in impossible to provide adequate staff who will fill all the waking hours of these students with activities, they should be taught to incorporate play and recreation skills into their daily lives.

Techniques

☐ Certain guidelines should be kept in mind when employing behavior modification techniques.

1. Insure that reinforcers are administered for appropriate behavior.
2. If the program is not leading to student progress, reinforcers should be re-examined.
3. Negative reinforcers should not be used to stop undesirable behavior.
4. Complex activities should be taught in components.
5. An artificial environment with increased stimuli may be created in order to involve the student's remaining senses, and increase his sensory input.
6. With repetition and practice, the student may actually learn to attend to sensory stimuli previously considered below his sensory threshold.
7. The multiply handicapped blind student has a strong need to succeed; repeated failures return him to a world of fantasy and ritualistic behavior.

Tactual Learning

☐ The multiply handicapped student relies strongly on his sense of touch. The tactual sense is distributed over all the body, responding to a wide range of stimuli: mechanical, thermal, electrical, or chemical. Skin layers are composed of many nerve endings which when stimulated elicit such sensations as itch, contact, tickle, vibration, pressure, wetness, dryness, smoothness, roughness, heat, warmth, cold, and pain. Development of tactual skills in the multiply handicapped blind student is paramount, serving as an indispensable avenue for sensory input. To stimulate the sense of touch, a student should have a wide range of experiences with different shapes, sizes, textures, consistencies, and weights.

Development of skills

The teacher should not place an object in a student's hand without prior explanation and preparation. It should be moved around audibly, if possible and slowly introduced to the student. Only when he shows interest in picking up and examining the object should the teacher place it in his hands. This procedure is no longer necessary when objects become familiar. The student should then be encouraged to go to the shelf independently and to pick out things he wishes to manipulate.

Feedback

In teaching discrimination to a non-verbal child it is essential to get feedback through different means. Instead of a verbal expression when he has grasped a concept, he should have to demonstrate by performance. The teacher may ask the student for a ball, a cube, a triangle, or a cymbal; if he responds correctly, he has understood the concept. Students with agnosia may not know what is meant by the word "ball," yet know perfectly well how to use one. A careful study of each individual is necessary in order to alert the teacher to their various problems.

Echolalia

One of the students in the program could hear perfectly well. She could repeat words and sentences accurately. Her manual dexterity was superb. She

could assemble objects with relative ease, correctly replace shapes on the form board, string beads, and perform other fine motor skills. Yet if asked to select a ball, she would repeat the instruction and do nothing. If her hand was placed on a box containing a variety of shapes, including balls, and the instruction repeated, she would pick up haphazardly any object she touched. The teacher soon discovered that she did not understand what to do. The student's echolalia involved more than developmental arrest in expressive speech; she did not associate words with objects.

Training the Gustatory Sense

☐ To stimulate the gustatory sense, various kinds of food should be presented to the student. The experience should be pleasurable, and force should not be used to make a student try a new food. Since the gustatory sense is closely linked with the olfactory sense, students should be encouraged to smell certain foods before tasting them. Odors can be environmental clues; the smell of food can indicate that one is approaching the dining room. Just as the interdisciplinary or unitary approach has proved to be more effective in teaching multiply handicapped students, so does multisensory training serve to make learning more meaningful and effective.

Sensory Motor Training

☐ Until recently, few institutions in the United States had programs for educating or rehabiliting the mentally retarded blind. They were considered a "patient population" and they were discouraged from making any show of initiative. The program centered about nursing care, and the medical model prevailed. In 1968 Paul McDade sent out questionnaires to determine the extent of educational services for the mentally retarded institutionalized blind. The revelation was that programs had not been instituted because there were no funds, there were no model programs, and no trained staff in the area.

No interaction

This group of institutionalized patients simply deteriorated, the tendency being for most of them to sit in one place and indulge in strange mannerisms or produce inhuman sounds. There is no interaction, for most of them are nonverbal. At times they act aggressively toward one another in terms of their boredom and frustration. They have no model to copy. Interaction with staff comes only when there is a physical need to be met, or when they misbehave.

Gross motor skills

In a sensory motor program, attention should be geared to the developmental level of the individual, beginning with gross motor skills. Playground equipment provides a good deal of physical exercise as well as enjoyment. Provided there are no orthopedic complications, motor skills can be taught to all multiply handicapped students. Coordination can be improved through use of the balance board. Hand rails are used to teach students to climb up and down stairs. Balls of various sizes are used to teach grasping, throwing, and retrieving. The use of swings and slides improves muscle tone and engenders confidence. Pulling and pushing can be taught by use of a bicycle pump. Throwing bean bags at targets improves hand and arm coordination. Use of the chinning bar strengthens arm and shoulder muscles. Riding a tandem bicycle with a sighted guide on the front seat strengthens leg muscles and improves balance. A swimming or wading pool provides relaxation and freedom of movement. Balance and posture as well as muscle tone are improved by roller skating and

by using a trampoline. These are but a few activities which have been tried and found to be successful. The teacher must draw on his own ingenuity and creativity.

Manual dexterity

Manual dexterity can be improved by stringing beads, modeling clay, or using form boards of differing complexity. Scissors, peg boards, twistable and elastic objects, are all useful in fine motor training. Wherever possible the end-product of each activity should be obvious and interesting to the student. Each simple action will take much time to perfect. Care should be taken that the student not experience repeated failure.

Mobility Training

☐ Sensory motor training is not complete without attaining orientation and mobility. It is estimated that 20 to 40 percent of the institutionalized mentally retarded blind could benefit by mobility training. A blind student who knows his living unit well and can move about without fear or restriction is better able to take care of his needs. If he is constantly lead about, given water on schedule, shoved back in his seat every time he ventures out of it, the result will be regression, apathy, and complete dependency.

The living unit

A student should learn about his living unit a little at a time. A chiming clock could be used to identify a central point in a living unit. Learning the location of one important place naturally leads into learning the location of yet another. Some will learn easily and some will always become lost and confused. If there are a large number of people living in a unit, it is difficult to move about without encountering persons who might scratch, bite, or otherwise try to intimidate. Nevertheless the teacher should encourage students to venture out and take risks despite these hazards.

Mobility need not and should not be confined to the unit. Students should be able to enjoy fresh air and sunshine whenever possible. The entire thrust of the program is toward normalization.

Love and Patience

☐ Since most of the students cannot express themselves verbally, any clue to their needs should be attended to promptly, thus encouraging self-expression and heightening self-esteem. If the student receives only negativism, rejection, and authoritarianism, he will cease to attend to any clues in the environment or exploration of it, experiencing a sense of helplessness and inability to change or control his world.

Certain qualities must be ever present in teaching the mentally retarded blind, a relaxed atmosphere, a supportive and affectionate instructor, and an inexaustable amount of patience.

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(Continued on page 362.)

Camp Challenge: Program for Parents and Their Preschool Children with Visual Handicaps

K.C. SYKES, Ph.D.

Dr. Sykes is program leader of special education at Florida State University, Tallahassee.

ABSTRACT: This community action program focuses on the critical need to provide services to the parents of preschool children with visual handicaps. Scheduling at the camp allows parents to attend lectures while trainee teachers work with the preschool children in a children's learning program supervised by experienced teachers. Recruitment, programming, and evaluation are discussed as well as the informal aspects of the camp. Plans for the future include the setting up of workshops; dissemination of resource materials; and the need to encourage entire families to attend.

Initiated as a pilot project in October, 1972, the Camp Challenge program for parents and their preschoolers with visual handicaps completed its second session in the Fall of 1973. The primary aim of the annual six-day program is to provide parents with help and information concerning their children's needs and make them familiar with the types of educational assistance available in Florida. For the children there is a learning program as well as the traditional camp activities. As an additional benefit, the camp offers an opportunity for trainee teachers of the visually handicapped at Florida State University to gain first-hand experiences with blind children.

Costs and Sponsors

☐ The program is sponsored by the Easter Seal Society for Crippled Children and Adults of Florida and its local affiliated Easter Seal agencies in cooperation with Florida State University and the Florida Bureau for Blind Services. Overhead costs are met by the state agency, and direct costs—constituting approximately 50 percent of the total costs—are defrayed by fees paid either by the parents or by local Easter Seal affiliates and other agencies such as Lions Clubs. If parents are unable to meet the session fee for the camp, application can be made for financial assistance through local Easter Seal agencies. Florida State University also provides consultant and student help, and the Florida Bureau for Blind Services assists in recruitment and in the dissemination of information. The program also leans heavily on the support of experienced teachers of the visually handicapped, a number of whom are released from their teaching duties to attend the camp.

Recruitment

☐ Recruitment of families with visually handicapped children is handled in two ways: the state Easter Seal agency mails referral literature to a wide variety of organizations and individuals. Important groups contacted are Bureau for Blind Services offices throughout Florida, ophthalmologists, teachers of the visually handicapped, and directors of exceptional child education programs. Additionally, press releases are prepared and disseminated state-wide a few weeks prior to the camp. A brochure of photographs and an overview of the program developed prior to the second camp session has also been successful in drawing attention to the program.

First preference on enrollment in the program is given to 1) parents of chil-

dren up to the age of five; 2) children who are not in therapeutic or educational programs; and 3) families in which both parents can attend. Enrollment is limited to approximately 20 children and their parents.

The director of camping handles referrals and is also responsible for the pre-camp orientation of staff. Programming and direction are handled by two faculty members from the Special Education program at Florida State University, Tallahassee. Approximately 20 undergraduate and graduate students majoring in visual disabilities participate in the program for course credit. Orientation sessions for these student-teachers are held at the University.

Program Schedule

☐ The camp program is organized by means of a split schedule: parents attend lectures, while a learning program supervised by experienced teachers is held for the children. Interspersed with these core experiences, but nonetheless just as important, are the traditional camp offerings: nature walks, swimming, sing-a-longs, and games.

Parents program

Through a program of guest speakers who donate their services, parents are given an overview of the help available to them. Two sessions are held each day on topics such as: a) preschool readiness for visually handicapped children, b) a residential kindergarten for visually handicapped children, c) speech, hearing and language needs of the preschool visually handicapped child, d) orientation and mobility, e) emotional problems of visually handicapped children, f) common eye disorders in children, g) state services for visually handicapped children, h) program and services for visually handicapped children at the Florida School for the Blind, i) child development, j) concept development, k) daily living skills, and l) rehabilitation and employment.

Guest speakers and other visitors to the camp are encouraged to stay a day or two in order that the parents may speak with them in informal discussion groups and on an individual basis. Professionals and student-teachers also benefit from these exchanges.

For practically all the parents, the camp provides their first opportunity to meet with other parents of visually handicapped children. Time and again they remark on how wonderful it is to know they are not alone in their problems. The socialization process which occurs when parents of handicapped children meet together helps them accept their roles and responsibilities, gives emotional comfort, and leads towards a more realistic appraisal of their child's abilities.

Midway through the program parents visit a nearby resource room program for visually handicapped children where they see visually handicapped youngsters functioning both in the resource room and in the regular classrooms of the school. It has also been found beneficial to include among the speakers a blind person who serves as an example of the success that can be attained by an individual despite his visual impairment.

Children's learning program

While the parents are engaged in discussions and lectures, the other main business of the camp is in full swing. The children's learning program is headed by experienced teachers of the visually handicapped and staffed with the student volunteers. Each experienced teacher is responsible for three or four student-teachers, and each student-teacher is assigned to one family unit.

In this way close contact with each family is maintained throughout the entire program.

The children's learning program is geared to the needs of the individual child. Evaluation checklists lead the volunteer and teacher to quick awareness of the child's potentialities and difficulties in the areas of eating, grooming, toileting, dressing, speech and language, conceptual development, body image, gross and fine motor coordination, and socialization. Attached to each checklist is an outline of teaching techniques and sources of additional information.

Teaching Materials

☐ Teaching materials are provided by the teachers and student-teachers and, together with materials available at the camp, provide opportunities for the student-teachers to put into practice their skills in preparing individualized teaching materials. In using these materials the emphasis is on incorporating activities into the natural setting. Structured activities are based upon areas of need indicated by the brief diagnostic evaluations provided by the checklists.

A most valuable teaching device used at the camp is a videotape recorder. While the parents attend lectures, tapes are made of the student-teachers and teachers working with the children. Toward the end of the week these tapes are viewed by the parents and followed up by an informal staffing. It is quite an eyeopener for parents to see what can be accomplished in their absence! One child was taught to walk alone, another to eat solid food, and for one small child it was a major accomplishment to be left with a "babysitter" without undue trauma! (The video-tape recorder is also used to record the guest speakers' talks so that they can be viewed by the student-teachers in the evenings.)

Evaluation

Prior to the staffings with parents the student-teachers participate in evaluation sessions involving discussions of the video-tapes and overviews of checklist information. They draw up written assessments detailing the progress made by each child. In discussions with the supervisors they decide how to present these assessments to the parents and how best to encourage parents to act on their suggestions.

Problems

☐ There are, of course, a great many problems that a one-week camp cannot solve. Only limited goals are feasible. Deep seated difficulties rooted in family and personality will not yield to a short-term project of this nature. The positive aspects of parental interaction, provision of information, and participatory activities present a threat to some parents because of new role perceptions they are expected to assimilate; and the vast amount of information given in such a short time often proves indigestible. Inexperienced student-teachers can present conflicting advice to parents and because of their own uncertainties, may be overly permissive with the children and lax in providing parents with specific objectives. A real problem, too, is the danger of over stimulation of the children by too many eager adults, and the lack of continuity this engenders.

Future Programs

☐ Future programs must even more than now take into account the need for entire families to attend the camp. This may mean offering the camp at a more convenient time when fathers can take time off work, or providing a sufficient

amount of money to a family to offset the absence of the father from work. Because it is also valuable for handicapped children to be in contact with normal children, future camps should encourage entire staff families to attend.

Follow-up evaluations

The long-range value of the camp to participants is ascertained through follow-up evaluations arranged through Bureau for Blind Services offices, ophthalmologists, and teachers. The state consultant for visual disabilities contacts all teachers of the visually handicapped in Florida to ensure that follow-up visits are made to the children's homes.

Future plans

Plans for the future include workshops and classes for parents run by local teachers of the visually handicapped. One county has arranged for a teacher and mother of a blind child to make a presentation about the activities of Camp Challenge. The teacher has also arranged visits for the parents to schools for handicapped children in their own localities.

There are also plans to prepare resource materials about the program. These will provide information on referrals, programming, checklists, dissemination procedures, agencies offering help to the visually handicapped, student-teacher reaction papers, and parent evaluations.

Active involvement of all those who are concerned with the well-being of the visually handicapped child in a project such as Camp Challenge brings about that necessary interchange of ideas vital to the continuing provision of services for these children. Working with children at the preschool level leads to an awareness of what can be accomplished when professional help is available in the child's early years. The camp is a success because parents, students, and professionals participate without preconceived notions, but rather with a human compassion and willingness to learn. There is great need for preschool programs for visually handicapped children. Camp Challenge is a step in the right direction.

Voluntarism Under Attack by NOW

The National Organization of Women (NOW) has challenged the traditional concept of voluntarism in America. According to an article in *Channels*, the newsletter of the National Public Relations Council, "NOW believes that volunteer labor is an extension of unpaid household work that keeps women economically dependent and prevents them from earning money of their own." Volunteers, therefore, should be paid for their services. While agreeing that reform is needed in the way volunteers are treated, Dorothy Height of the National Council of Negro Women and Ellen Straus, founder of Call for Action and National Call for Action, believe that individuals have a right to choose the way in which they help others.

Ball Games for Visually Handicapped Children

R. E. HARTMAN

From 1945 to his death on March 7, 1973, Mr. Hartman was a physical education teacher at the Arkansas School for the Blind, Little Rock.

ABSTRACT: In addition to allowing students to interact actively with their classmates, a series of progressively more difficult games can help in the improvement of visual-physical efficiency. Full descriptions, including procedure, rules, scoring, and suggestions, are provided for Floor Ball, Moving Floor Ball, Double Bounce Ball, Bounce Ball, Catch Ball, Simple Volleyball, Floor Tennis, and Fist Ball.

One of the most painful psychological experiences which can befall a visually handicapped child is to find himself on a playground or in a gymnasium where no activity is going on in which he can participate. An even more profoundly harmful effect of continuous exclusion from game-play is the harm done by the missed opportunity to be an integral and important part of vigorous and purposeful striving together with one's fellows. The following games were devised by the author at the Arkansas School for the Blind for the fundamental purpose of allowing every child, regardless of visual limitations, to have a medium of comparatively equal game interaction with his classmates.

Visual-Physical Efficiency

☐ After some years of observing the *same* children participating in this series of games, it became apparent that certain ones who were once limited to the less visually-demanding games actually progressed to, and often became very competent in, those which called for a comparatively high level of visual efficiency. Such an advancement could not be explained in terms of increased visual acuity, since spontaneous increase of visual acuity is not common among partially sighted children. Two explanations remained: first, physical maturation; while a contributing factor in some cases, it had to be ruled out in others, because the improvement in game efficiency did not parallel physical development. Second, the apparent improvement in visual efficiency was a direct result of the games themselves. But how?

Three conditions

The question remains partially unanswered. At present, a belief is that three conditions are active in producing the improved visual efficiency: 1) Improved visual confidence; a greater inclination on the part of the child to utilize his residual vision. 2) Improved visual perspective; a more acute sense of space and dimension within the visual range derived from game experience. 3) A marked improvement in coordination between vision and muscular response, including balance or kinesthetic awareness. A term which may be descriptive of all these considerations is *visual-physical efficiency*.

Ball Exchange Games

☐ The first games are based on the ball exchange—or tennis—principle and are presented in an order of progressive difficulty. The first two games are especially suitable for very young children. The final games in the series are based upon the baseball principle which, in its more complex form, demands all the skills acquired in earlier games and which may be varied in difficulty by the imaginative instructor to accomodate the various efficiencies of different groups of pupils.

Any indoor or smooth-surfaced outdoor area 30 by 60 feet will serve for all the games described here. For ball exchange games, clear boundaries delineating court size along with a dividing midline should be marked in paint, tape, or chalk—or by movable markers such as gymnasium mats, when small numbers of players necessitate smaller playing areas. A volleyball net will be required for the volleyball-type games. This net should remain at the same height for all net games—as high as standards will allow. Balls should be about basketball size or slightly smaller, of inflated rubber (washable), and of a bright color that will contrast with both interior and exterior backgrounds. White or bright yellow colors are preferred, and most children favor a white, freshly washed volleyball.

Playing area, equipment

Aside from playing areas and equipment, the basics of any game consist of procedure, rules, and scoring. No effort was made to describe all the refinements of procedure and regulations which have become attached to the games in their evolution. During the course of instruction and of officiating, the teacher will find certain unique regulations and limitations presenting themselves in accordance with the playing areas, the ages of the children involved, and the varieties of their vision.

Floor Ball

☐ Floor Ball is especially good with very young children. Teams consist of as many players as can be stationed side by side across each division of the playing area, paralleling the midline. When numbers are insufficient to extend to the side boundaries, the boundaries should be narrowed.

Procedure: Each line or team faces the other across the midline. Team captains call a coin toss to determine which team will initiate the game, or serve. The captain winning the toss may elect to start or defend. The game consists of rolling a ball as rapidly as possible back and forth between teams, each team attempting to cause the ball to pass through the line formed by the opposing team. After the initial serve any player who receives the ball must return it *immediately* toward the opposing team.

Rules: The function of the game is to have the ball travel continuously back and forth between teams, on the floor, and within the lateral boundaries of the playing area. Penalties consist of awarding a point to offended team, and those are awarded when: the ball is thrown in the air (balls that bounce high are "in the air" throws, as well as any ball that travels over half the distance between teams without touching the floor); the ball is thrown out of bounds; a player moves "out of place" to intercept a ball which could obviously have been stopped by a teammate; or when a caught ball is held too long by any player (the instructor may wish to impose a three-second limit, which interval of time should be illustrated occasionally).

Rules

Scoring: The winning score is 11 points. Aside from penalty points, a point is awarded each time a successful "through" occurs—the passing of the ball through the line of the opposing team.

Suggestions: It is important that the ball used in this and the succeeding game be slightly deflated. A partly deflated ball will be easier to grasp and will hug the floor during play. Team captains should retrieve balls which have passed through or gone out of bounds. Captains should re-start games after any time-out interval, according to the team which last received the ball.

☐ Moving Floor Ball is virtually the same as the preceding game, with three exceptions: 1) Teams are reduced in number to two, three, or four players per team—depending on size of area, activity of players, and their visual capabilities. 2) Players are given the freedom to move about in their interception and return of the ball. 3) Points are no longer awarded merely for passing the ball through the group of opposing players. The ball must pass over goal lines at opposite ends of the playing area.

Moving Floor Ball

Suggestion: The instructor may elect to introduce the "five serve" principle in this game: after each five points the serving privilege—inauguration of play—goes to the other team.

☐ Double Bounce Ball is the first and simplest of a series of similar games played according to the volleyball principle and utilizing a volleyball net. This initial game is especially applicable for small children, for those with very limited vision, or for children who have not learned to catch a flying ball.

Double Bounce Ball

Procedure: Teams consist of two players each, stationed on opposite playing courts. The ball is served over the net and must bounce *twice* before being caught and returned. Each time it passes over the net, either from a serve or a return throw, it must bounce twice before receiving players can catch and play it. Thus the sound of the ball helps players coordinate vision and bodily movement in their pursuit of it. At first, children with very poor vision or poor visual efficiency will experience some difficulty—"rushing" the ball or hesitating too long, getting in a teammate's way, or playing too close to the net. Proper instruction and experience will soon correct these errors. Teachers see the obvious problems and correct them, and most children rapidly progress to a level of efficiency where the game is no longer challenging enough.

Rules: Balls must be thrown cleanly over the net and land in the opposite team's forecourt. Balls must land well enough in bounds so that the second bounce occurs within the playing area. (Players may go out of bounds to catch a ball provided the ball does not touch out of bounds.) Catching a ball before it bounces twice is an infraction. A ball which strikes an opposing player before bouncing is called "no serve" or "no throw," as the case may be, but is not counted as an infraction. Each infraction scores a point for the offended team. Serving is according to the five-serve alternating volleyball regulation, and the serving privilege is shared by all players.

Rules

Scoring: Winning score may be 11 or 21. Tie scores of 10-10 or 20-20 are "deuce" scores—indicating that one team must then earn a two-point advantage to win the game in progress.

Suggestions: This game is for those children whose visual efficiency and/or coordination is very poor. As soon as a child becomes able to catch the ball consistently after one bounce he should be excluded from further participation at this level and moved up to the next game. The teacher should conduct occasional try-outs to determine this.

☐ Bounce Ball is identical to the previous game, except that the ball must be caught after one bounce rather than two. The action is livelier, and teams may consist of three or four players each. To provide additional visual adjustments, teams should exchange courts after each game, and games should be played both indoors and out.

Bounce Ball

Two further refinements, in preparation for the next game, should be introduced at this level: 1) A ball which is served into the net is a "fault," scored against the server's team; two successive faults award one point to the opposing team. 2) A ball which is *returned* into the net gives the receiving team one point, the same as for an out-of-bounds throw.

Catch Ball

☐ Children progressing through the foregoing games will have acquired awareness of the fundamental rules for Catch Ball. Of greater importance, they will have acquired a better knowledge both conscious and unconscious of the breadth, depth, and detail—of the *reliability*—of their eyesight as it applies in this sort of activity. In addition, they will have attained some proficiency in relating bodily movements to a variety of simultaneously perceived visual cues—flight of a ball, location of teammates, height of net, spatial concepts relative to boundary lines, distance to the net from various playing positions, effect of direction of light on seeing, and other visual considerations. They will, of course, have progressed at varying speeds and to varying levels of efficiency. But all who have mastered the previous game will be able to enjoy and profit from Catch Ball both physically and with regard to furthering their physical-visual efficiency. This game identifies the child who can attain a high level of such efficiency. And, surprisingly, this child is not always the one with the "best" eyesight according to visual acuity measurements.

Catch Ball is a vigorous game, tinged with great excitement, and suitable to age levels through high school. Fundamentally, it differs from the previous game in that the ball is no longer allowed to bounce, but must be caught and returned without touching the floor. Actually, it differs markedly in both speed and the athletic skill demanded of its players.

Procedure

Procedure: Teams may consist of as many as seven players, but teams of two to five make for better games. With five-man teams, there should be a midcourt player of superior ability, and players stationed near the corners of each court with their "territories" overlapping. Teams may be rotated clockwise at each change of serve, if desired, to give other players the opportunity to play the midcourt position. The serve privilege is exchanged after five points and shared by all players. Any player may receive and return the ball, and the ball may be exchanged between players for positional or deceptive strategy provided these exchanges are no more than three per reception and do not exceed the usual three-second limit for returning the ball to the opposite team. Teams may have a "net player"—one who plays very near the net and receives balls from teammates in his own backcourt for deceptive play over the net; but in returning balls over the net this player must keep one foot in contact with floor or ground.

Rules

Rules: Serves must be from the back line of the server's court, and balls which are served into the net, which travel out of bounds, which are served beyond the back line of the opposing court, or which touch the ceiling are scored "faults." Players should be aware of the score sufficiently to know when to "change serves"—at each multiple of five. Extra serves are infractions.

A ball which touches the ceiling on a return throw is a point for the receiving team. "Net balls" are attempted serves which lightly touch the top of the net; return throws which thus touch the net are *not* net balls and may be played.

Net balls (on serves only) are termed "no serve" and are not played. Net balls do not incur a penalty, and a net ball cancels a single fault occurring just prior to the net ball (see scoring of faults).

"Slam balls" prohibited

Balls which travel in a straight line, without a perceptible arch, are prohibited, since this indicates a ball thrown with potentially harmful force. These "slam balls" incur a one-point penalty. Any player who returns a ball while within ten feet of the net must keep one foot in contact with the floor to prevent his slamming the ball straight down on the opposite side of the net. Leaving the floor at this distance from the net is a "jumping" infraction. When a point occurs on the court opposite the server, the ball must be returned *under* the net to avoid delay. Balls may be received and played from out-of-bounds positions, but a ball caught out of bounds *must* be played. A ball is not scored "out of bounds" unless it strikes the playing surface. A ball accidentally thrown into the net may be caught off the net and played by another player but not by the player who threw it into the net. Faults served into the net are dead balls and may not be played.

Scoring: Winning score may be 11 or 21. The deuce-score ruling applies. One point is awarded for each infraction; one point is awarded for each "double fault"—two successive faults of any kind on serve, without an intervening net ball. Standard points are awarded whenever the receiving team fails to catch and/or return the ball within the three-second time limit.

Suggestions: Since Catch Ball is quite active, certain players may tend to dominate play. It is sometimes advisable to remove these players temporarily, allowing less competent players to have greater access to the playing area. In this way the skill of the latter may be enhanced, and the superior player can be moved on to the next game in the series.

☐ The name of this game is derived from the fact that the ball is volleyed, instead of being caught and thrown. Simple Volleyball is played according to the same rules governing Catch Ball. The fundamental change here is that the servers put the ball into play by striking or volleying it, and play continues with all players volleying the ball. The instructor may sometimes meet with initial difficulty in getting pupils to relinquish Catch Ball for this more demanding game, since their first attempts at it are usually frustratingly incompetent. However, good Catch Ball players may be honestly assured that they will become equally skillful at the new game, although such skill may require several weeks of fairly regular practice to attain.

Simple Volleyball

Procedure: The rules of Catch Ball apply with two modifications: 1) No receiving player may strike the ball twice in succession in attempting to volley it back across the net; once a player has struck a ball he may not touch it again until another player has touched it. 2) Players may leap into the air at any place on the playing area in order to volley the ball.

Procedure

Scoring: The game is scored in accordance with Catch Ball rules, save for the "jumping" rule, which does not apply.

Suggestion: Playing efficiency is best assured by pointing out to players that a ball can be more accurately volleyed with *both* hands than with one. Those few players who acquire the physical-visual efficiency to volley with consistent accuracy using only one hand are ready for promotion.

Standard Volleyball

The procedure and rules for Standard Volleyball are available in any good book of recreational games. The writer has seen visually impaired players who could hold their own quite admirably against fully sighted competitors in regular volleyball after progressing through the previous series of games.

Floor Tennis

☐ Floor Tennis is an oversized version of table tennis played according to table tennis rules on a hardwood or concrete area. Children sometimes call this game "floor ping pong."

Procedure: "Singles" or "doubles" may be played. A very low net may be strung along the midline or the line itself may substitute for a net. The ball—a white volleyball *tightly* inflated—is served as in table tennis; that is, by causing it to strike both the server's court and the opponent's court. Return plays, however, must strike *only* the opponent's court. Dividing lines may be taped or painted in the respective courts for doubles play if desired, but this is usually not necessary, since players will quickly gain awareness of the breadth of their own territory.

Rules

Rules: Serves may not "skim" the surface of the playing area but must have enough bounce to be accessible to opponents for play. Serves are alternated and, in doubles play, rotated clockwise. Returned balls must travel from the player's hand across the midline in the air. Balls must be struck, not caught and thrown, and one or both hands may be used.

Scoring: Scoring is the same as in table tennis. The double fault rule does not apply. Winning scores are 11 or 21, and the deuce-score rule applies.

Boys and girls

The reader will note that during the preceding series of games no reference has been made regarding the sex of participants. The individual instructor may find that a mixed group who have progressed together through the first four games at comparatively equal levels of ability may continue to perform satisfactorily as mixed teams in Catch Ball and Volleyball. It is likely, however, that boys will dominate the play of these latter two, as well as Floor Tennis. Boys and girls may, of course, compete separately in these games and in the next one to be described.

Baseball-type Games

☐ Baseball-type games can be modified to a great extent to accommodate the ages and visual abilities of children. In the form described here it is a complex game, but one which allows a wide range of visual abilities among participants.

Fist Ball

Building upon the basic procedures of baseball, we developed over a period of years a fascinating, violently active and demanding game called Fist Ball, because of the unusual mode of batting. While the principle rules of baseball regarding innings, balls, strikes, and methods of putting base-runners out apply to Fist Ball, the game has its own special regulations and techniques. In addition, certain ground rules will present themselves according to the type of play area used. The game may be played indoors or out, using the same equipment. The outdoor diamond must be improvised as a baseball or softball diamond is too large. The same play area can be modified for Fist Ball. About 35 feet is the suggested maximum distance between bases.

Procedure

Procedure: A team of ideal size consists of seven players; five is the minimum. Games consist of five or seven innings, as time allows. Only three key "positions" are absolutely necessary, pitcher, catcher, and second-baseman; outdoors a third-baseman may be used. Remaining players may be stationed

in the outfield. The best bases are small gymnasium mats or rubber doormats. Second base should be larger than the other bases, since most of the action occurs there, and a larger base reduces the danger of collisions. Home plate should be no less than 20 inches across—outdoors a chalked area, indoors a white painted area. The pitcher's "box" may be a mat or a taped or painted area slightly ahead of a line from first to third base. A gymnasium ball may be used, but a white, tightly inflated volleyball is best. Aside from the ball, there are three major procedural changes from standard baseball.

Procedural changes

1. The ball is hit with the fist or forearm rather than a bat. A glove may be worn if desired (gloves used to strike punching bags are ideal). The "strike zone"—the area through which the pitched ball must pass the batter—is an area within the breadth of home plate and between the batter's *waist and eyes.*

2. The pitcher must cause the ball to bounce once before passing through the batter's strike zone. The best method is to pitch with an overhand motion and cause the ball to strike the ground about three feet in front of home plate with enough force to bounce on past the batter. A "strike" is any pitch which passes through the strike zone or is missed by the batter. A "ball" is any pitch which misses the strike zone.

3. The batter who gets a "hit"—any ball which is hit into "fair" territory—must attempt to run *all the way to second base,* touching first base, before the second-baseman receives the ball and touches the base. First base, in other words, is merely a handicap which the hitter must touch in order to allow the fielders time to field the ball and attempt to play it to second base. This handicap is necessary because a large inflated ball cannot be thrown with enough speed to allow base play in accordance with regular baseball practice.

Rules

Rules: In most play situations the rules of baseball apply; foul balls, fly balls, base-on-balls, double plays, forces, tagging base runners, failure to touch bases when running, etc. are the same. It must be remembered, however, that all rules applying to first base in basball are applied to second base in Fist Ball. Additional special rules are:

Indoors, a batter is out when *any* ball he hits is caught by a defensive player before it strikes the floor. Thus when a ball rebounds from a wall and is caught by a fielder, the batter is out.

Base running

Base runners may not steal bases. Example: A runner who has arrived safely at second base must wait for an ensuing batter to hit before attempting to go on home. Indoors, a runner may not stop at third base. Outdoors, they may stop at third provided a third baseman has been officially assigned.

Base runners who are struck by a batted ball are out. Runners must avoid interference with balls in play, including unintentional interference.

The pitcher must keep one foot within the pitcher's box at the instant of pitching the ball. Also, once he has started his pitching motion, he must pitch the ball. Failure on either count is called a "pitcher's balk" and awards the batter a free "walk" to second base.

Players who attempt to tag base runners out must do so with the ball itself or with the hand holding the ball; if the ball is dropped because of this action the runner may continue, and play resumes as though no tag had been attempted.

Home runs are fair balls hit beyond given distances, such as a designated landmark or the farthest wall of the gymnasium.

Scoring: As in baseball, the team with the greatest number of runs wins the game. No runs are awarded for rule infractions, except for when a pitcher's balk may force a base runner home.

Modifications

☐ *Suggestions:* Some modifications of the game may be necessary according to playing areas available and the varieties of eyesight of the participants. Some children may see so poorly that they require partners during base running. A child who cannot see a ball passing through his strike zone may be permitted to strike at all pitches. The umpire then calls strikes and balls according to the strike zone only; however, it is advisable that he does not begin calling "balls" against the pitcher until two strikes have been called against the batter.

In general there should be no limit on the speed with which the ball is pitched. Even batters with very poor vision can learn to time their swing to the sound of the bounce that occurs just before the ball passes through the strike zone. (We have had totally blind pupils who can hit as effectively as partially seeing teammates.) Some pitchers master very great speed and control in their pitching; thus a pitcher can be as crucial to the outcome of the game as in regular baseball, a condition which is usually not found in other versions of baseball for visually impaired children.

Younger children

Simplification of the game for younger children may take the form of batting practice—batting without running; scoring according to the distance balls are hit; or kicking balls rolled on the floor instead of hitting pitched balls. In the last version, the batter may be required to execute a home run after each hit; that is, he must travel all bases and try to arrive safely home, while the ball is traveling from fielder to pitcher to second-baseman to catcher, in that order.

There are many other games for partially seeing children, but those discussed here serve directly to develop visual-physical efficiency.

Next Month in the New Outlook

The November issue of the *New Outlook* will include articles on a new method for the group testing of blind persons, yoga and blind persons, the tactile vision substitution system, and the laser cane. A special feature will be an illustrated article on a design for a play environment for blind children.

The Simulation of Age-Related Sensory Losses: A New Approach to the Study of Environmental Barriers

LEON A. PASTALAN, Ph.D.

Dr. Pastalan is director of research, Institute of Gerontology, University of Michigan, Ann Arbor.

ABSTRACT: Through the use of mechanical appliances to simulate the "normal" sensory losses that often accompany advanced age, the research team repeatedly performed a number of tasks in a dwelling unit, a multi-purpose senior center, and a shopping center, in order to discover and evaluate the nature of environmental barriers faced by the elderly individual. The study revealed specific problems that are encountered when the visual, auditory, olfactory, and tactile senses are impaired. Space organized by these senses functions both as a stimulus and in the orientation of the individual. The simulation model was shown to be valuable as both a research and a training tool.

Purpose

The purpose of this study was to construct a simulation model which would duplicate relevant environmental experiences of an elderly population suffering from sensory deficits. Such an approach would provide a unique tool to discover and evaluate the nature of environmental barriers which the elderly and other physically vulnerable people face daily in their homes, neighborhoods, and communities.

Since the organism can respond directly only to those aspects of the environment experienced through the sense organs, age changes in sensory and perceptual mechanisms effect very real environmental changes in the world in which the aging individual lives. There has been an impressive accumulation of literature regarding the relationship between age-related sensory losses, environmental experiences, and behavior (see References).

Mechanical devices used

Because of the availability of this kind of basic data, it was possible to simulate certain types of sensory decrements, such as increased opacity of the lens, increased rigidity of the middle ear or presbycusis, and diminished tactile and olfactory sensitivity, by mechanical means. Sets of simple mechanical appliances, such as specially coated lenses, ear plugs, a masking device to decrease olfaction, and a fixative to temporarily desensitize the tactile sense, were developed and assembled.

"Normal" losses simulated

A basic strategy regarding the empathic model was to develop devices which simulated only "normal" loss and to steer clear of pathologies, at least until some baseline information was established for normal losses. Thus, our visual, auditory, olfactory, and tactile appliances simulate only losses that occur within the context of the normal aging process. An attempt was made to simulate the condition of a person in his late seventies in the belief that this would represent a kind of average or mid-point in terms of this progressive condition, keeping in mind the wide range of variation within the elderly population.

Visual Loss

☐ The visual loss which was simulated was the problem of light scatter or glare. A technical description of this condition will not be recounted here;

suffice it to say that for all practical purposes the lens of the human eye typically begins to lose its elasticity and gradually starts to become opaque from about the mid-fifties and progresses with age. The preparation and coating of the lenses was done under the supervision of optometrist Byron C. Floyd.

Hearing loss

Hearing loss for the elderly typically occurs above the 2,000 cycles range and decibel loss averages around 30 for those 65 years of age or older (Morrisett, 1950; Farr, 1967). Through the cooperation of Ronald Rogers, a speech and hearing specialist with the University of Michigan, a material was tested which, when used in the form of ear plugs, simulated the above loss very precisely. Each of the researchers had individualizd ear plugs made from this material and each was tested for their hearing beforehand.

Olfactory loss

The literature is rather sketchy in the area of age-related olfactory loss and, since there was no reliable guidelines or practical instrumentation available to establish the magnitude of loss, it was felt that simple cotton wadding introduced into the anterior nasal passages would reduce olfactory stimulation sufficiently so that the researchers would get at least some idea of the kinds of environmental messages that are lost. This was the most primitive of the devices and perhaps the least successful. Certainly the challenge of refining this stimulation is a priority task for the future.

Tactile loss

There was also very little information in the literature regarding age-related tactile loss. Our research team developed its own instrumentation (involving comparative judgments regarding ten grades of sandpaper mounted on 4″ x 4″ x 1″ blocks), standardized the losses with an aged population in the community, and experimented with a number of liquid and spray fixatives until we established the appropriate fixative and the proper coating procedures. The procedure involves coating the finger tips with a liquid fixative until the proper thickness was secured to elicit the necessary loss of sensitivity.

Research Team

☐ Once the devices were developed and assembled, the research team, which consisted of four doctoral students in architecture specializing in environmental problems of the elderly, initiated the field work. The researchers not only had several years of experience in professional practice, but had advanced graduate work in the behavioral sciences, including the physiology, psychology, and sociology of aging. It was felt that this team of researchers was uniquely suited for the undertaking.

Procedures

The procedures regarding the execution of the research consisted of each person experiencing three standardized settings for at least one hour each day. (Experiencing here means something other than observation and reportage; it is more akin to discovery and evaluation as almost a simultaneous process.) That is, one setting would be experienced for one hour on one day, the next day the second setting would be experienced, and so on. The entire cycle would take, on the average, three days and then the cycle would begin again. The experiment was carried out on a trial-and-error basis for a number of weeks to work out a standardized routine and was then pursued on a full-scale basis for approximately six months. The three settings consisted of a dwelling unit, a multi-purpose senior center, and a shopping center. Each of the researchers kept a daily record of his experiences for the duration of the study. During the

course of the study, periodic meetings with the research team were convened and discussions were conducted comparing experiences and reactions. Ultimately, general categories of experiences were derived from these periodic reviews; these categories served as bases for the first tentative summary of experiences.

Summary of Experiences

☐ Gradual accommodation to the simulated sensory deficits was part of the research design. There is considerable shock-value associated with "instant" sensory deprivation and it certainly produces an immediate empathy. However, it is how one begins to perceive the environment after ceasing to be preoccupied with the deficits that one begins to concentrate on evaluation. Then too, this approach seemed more natural since the elderly adjust to these losses over time and learn to make effective accommodations.

Team consensus

A number of experiences were readily apparent to all members of the research team and elicited unanimous agreement. It will be these experiences that will be summarized below. Those which seemed more idiosyncratic will be the focus of further work and will not be discussed at this time. The experiences will be summarized under the four senses tested: the visual, auditory, olfactory, and tactile.

Visual Losses

☐ *Visual.* a) Glare from uncontrolled natural light and from unbalanced artificial light sources was the single most ubiquitous difficulty encountered. For instance, when walking up an aisle toward the front of a supermarket, the typical vast expanse of plate glass across the front of the store on a bright day serves to obliterate most of the detail in surrounding objects. If only a single intense artificial light source is used for illumination, rather than several, the chances of inducing uncomfortable glare is increased.

b) Colors all tended to fade; the cool colors, such as green and blue, faded most, while red faded the least.

Contouring

c) Contouring was a difficult problem. One example of contouring involves the capacity to perceive the boundary between two contrasting surfaces. The problem was most apparent when two intense colors such as red and green bounded each other. The boundary becomes visually unstable because the intensity of the colors seem to overlap and as one focuses on the boundary it appears to shift. This becomes a real hazard when an elderly person has to negotiate stairs or distinguish floor from wall surfaces.

d) The opposite problem from unstable boundaries is the disappearance of boundaries. Closely related colors such as blues and greens tend to fade and blend into each other. This also creates problems in distinguishing wall and floor surfaces. For example, a light green wall and a blue-green carpet becomes virtually impossible to distinguish, and stumbling into walls is common.

Depth perception

e) Depth perception is affected. Frequently it is difficult to judge risers and treads going down a flight of stairs, particularly when stairs are carpeted with a floral print carpet or painted the same color.

f) There was difficulty in visual recovery when moving from a lighted area to a dark area or vice versa. The abrupt movement from an area having too much light to an area having too little should be avoided or mitigated with transitional lighting arrangements.

g) Dark wall surfaces bounded immediately by windows admitting bright

sunlight make it difficult to see objects located near the walls. Again, the extreme in contrast needs to be reduced.

h) The ability to discriminate fine visual detail was seriously impaired. The reading of printed information, such as names on people's doors, directional signs in the hallways of public buildings, hospitals, stores, and the like, were continual burdens.

Auditory Losses

☐ *Audition.* a) Inability to hear conversation clearly when there is background noise, such as appliances, air conditioning units, or when people congregate together and talk such as at parties, theaters, lecture rooms, etc.

b) Parts of words in a conversation are frequently unintelligible. This apparently occurs when a part of the word sound goes above the 2,000-cycle frequency. Thus it is not only a matter of loudness; even if the sound is loud enough, part of it can be filtered out if the frequency is high enough.

c) Difficult to locate and identify sounds. For example, noises from down the hall sounded much like noises only a few feet away.

d) Some combinations of carpeting, acoustical ceiling, and draperies absorb too much sound and make functional hearing even more problematic.

Olfactory Losses

☐ *Olfaction.* a) The single most dramatic experience was the drop off in the taste of food and eating pleasure. Appetite and interest in food was reduced.

b) Odors associated with various rooms in the dwelling unit which are used to aid environmental coding such as cooking and food smells in the kitchen, the smell of deodorants and bathing paraphernalia in the bathroom, were missing. Street smells, such as exhaust fumes, bakery smells, freshly mown grass, the scent of flowers, were all significantly reduced and affected the richness of environmental information.

Tactile Losses

☐ *Tactile.* a) Difficulty with fine muscle control in eye-hand coordination tasks, such as unfolding napkins, adjusting dials, turning pages of newspapers, magazines and books, adjusting pressure in gripping objects.

b) Making fine discriminations in temperature differences such as in dish and bath water.

c) Problems in identifying subtle differences in textures.

Conclusions

☐ The study has demonstrated that age-related sensory decrements can seriously constrain a person from freely using buildings, facilities, and other environments as presently designed. While it is apparently impossible to forestall age-related sensory losses, this experience suggests that through appropriately programmed environmental stimuli, the environment can be made to function as a more effective support network and mitigate the consequences of the aging individual's sensory losses.

While there were a number of specific design implications that the model helped make apparent, it is not our purpose here to recite a shopping list of design problems, along with suggested solutions; rather, it is to suggest organizing principles which call attention to whole classes of design solutions and in that way enlist the creative talents of interested designers and others to develop their own specific sets of solutions.

There are two basic principles that emerge from our study: 1) Organized space as stimulus, and 2) Organized space as orientation.

Organized space as stimulus

Organized space as stimulus involves the principles of getting the message or environmental cue across through stimulation. The environment is organized as intricately and systematically as any spoken language. It has a system of cues that tells us how to respond to specific situations. However, the environment communicates meaningfully only to the degree that the cues which are sent out can be received and perceived by an individual. If the sensory modalities such as the auditory or visual are deteriorated to the point where the message comes through only very weakly, then the person is in obvious danger of responding inappropriately. Organized space as stimulus involves a design concept called redundant cuing. Redundant cuing means beaming the same message through more than one sensory modality. An example of this kind of redundancy is getting the cue that one is in the kitchen by hearing the clatter of pots and pans, the aroma of food cooking, and seeing kitchen appliances. This brings three senses into action and at the same time all three are saying the same thing, "You are in the kitchen."

Organized space as orientation

Organized space as orientation is a design concept which seeks to organize spaces for their predictive value. The idea is that, in general, a space should have a singular and unambiguous definition and use. Again the purpose is to compensate with environmental arrangements for lessened sensory acuity. The spaces should be cued with landmarks which act as focal points for functionally different spaces. For example, color-coded surfaces signal functionally different spaces in terms of visual perception, textured surfaces for the tactile sense, and so forth. The purpose is to load the spaces with sensory cues so that they may more effectively serve as points of reference and avoid ambiguous messages. It should be kept firmly in mind that the changes in sensory acuity and other important physiological factors of this population is such that the usual subtle and complex architectural statements are not only largely unappreciated but are dysfunctional as well.

It is felt that the kind of organizing principles for design suggested by the model is only the beginning and that a systematic, longitudinal effort will surely yield even greater dividends.

The Model as a Research Tool

☐ In addition to suggesting the above organizing principles for design, the model holds great promise as a unique research tool since it makes it possible for the researcher to be the experimenter and subject simultaneously. It also examines the total context of the situation rather than examining relationships between a limited number of variables.

Training tool

The model has proved to be a very powerful training tool for designers and others who work with physically vulnerable people. It has been used extensively for this purpose with planning and design professionals, educators, social services personnel, housing managers, and community service personnel, such as firemen, policemen, and telephone operators who frequently deal with the elderly in emergency situations. Graduate students representing a large number of disciplines have also experienced the model.

The future calls for further refinement of the simulation appliances, field-testing the design concepts, and continuing development of the potential the model has for teaching and training purposes.

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Farr, L. E. Medical consequences of environmental home noises. *Journal of the American Medical Association*, 1967, **202**, 171-174.

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Hofstetter, H. W. A comparison of Duane's and Donder's tables of the amplitude of accommodation. *American Journal of Optometry and Archives of the American Academy of Optometry*, 1944, **21**, 345-364.

Jonouskova, K. (Color vision and age.) *Ceskoslovenska Oftalmologie*, 1955, **11**, 37-48 *(Ophthalmology Literature*, 1955, **9**, [134]).

Kleemeier, R. W. The relationship between ortho-rater tests of acuity and color vision in a senescent group. *Journal of Applied Psychology*, 1952, **36**, 114-116.

Kleemeier, R. W., & Justiss, W. A. Adjustment to hearing loss and to hearing aids in old age. In I. L. Webber (Ed.), *Aging and retirement*, pp. 34-48. Gainesville: University of Florida Press, 1955.

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Moncrief, R. W. *The chemical senses*. London: Leonard Hill, 1951.

Morgan, M. W. Changes in refraction over a period of twenty years in a nonvisually selected sample. *American Journal of Optometry and Archives of the American Academy of Optometry*, 1958, **35**, 281-299.

Morrissett, L. E. Plight of nerve-deaf patient: The uselessnes of all present therapy, the practical usefulness of aural rehabilitation. *Archives of Otolaryngology*, 1950, **51**, 1-24.

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Teaching Multiply Handicapped Blind Persons—*continued from page 343.*

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Cratty, B. J., & Sams, T. A. *The body-image of blind children.* New York: American Foundation for the Blind, 1968.

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Haring, N. G., & Philips, E. L. *Analysis and modification of classroom behavior.* Englewood Cliffs, N.J.: Prentice-Hall, 1972.

Hauk, B. B., & Freehill, M. F. *The mentally retarded: Case studies.* Dubuque, Ia.: William C. Brown & Co., 1972.

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Listening Skills: A Review of the Literature

KATHRYN M. DAUGHERTY

Ms. Daugherty is with the Department of Special Education and Rehabilitation, School of Education, University of Pittsburgh.

ABSTRACT: This 106-item annotated bibliography includes material on the developmental and educational aspects of listening skills; it was compiled as part of a project to establish the frame of reference for the development of a listening skills program. Appended to the bibliography is an annotated list of eight tests related to listening skills and a list of 25 problems that need further research.

In 1971, the Department of Special Education, University of Pittsburgh, sponsored a project to initiate research in the development of a formal listening skills program for visually handicapped students. Interest in this area grew out of specific needs in educational facilities for a methodological approach to the entire area of aural learning. Although a large percentage of visually handicapped students utilize taped materials for study, there is a severe lack in direct teaching methods for "learning through listening." Research implications in this area are extensive, covering both developmental and educational areas. The project focused on that period in education where the child must process the bulk of educational material utilizing formal textbooks, a period where extensive reading is crucial to the sighted child. This period, beginning in the late primary grades and extending through high school and college, requires the student to cope with reading and study-assignments which involve a variety of interpretive and organizational skills. The general purpose of this project was to establish a frame of reference for the development of a listening skills program based on research in education and research specifically in the area of the visually handicapped. As a part of the project the following bibliography was compiled and annotated. In addition, there is a list of tests involving listening skills and one of problems needing further research.

Ainsworth & High

Ainsworth, S., & High, C. Auditory functions and abilities in good and poor listeners. *Journal of Communication*, 1954, **4**, 84-88. An examination of the relationship of several variables to total listening comprehension, including pitch, loudness, rhythm, time, memory span, and speech-sound discrimination. An experiment involving 273 speech students revealed no significant correlation between any of these isolated variables and listening ability, as measured by an immediate recall test.

American Printing House for the Blind. *Annual report—fiscal 1969*. Louisville, Kentucky: The Author, 1969. A general summary of research activities at APH. Important emphasis is on the design of playback equipment, textbook formats, and study techniques for the blind. Development of playback equipment and record-

This work was carried out as part of a research project on listening skills sponsored by a grant from the Department of Special Education and Rehabilitation, University of Pittsburgh, June 22-August 12, 1971.

ing techniques is being done with a *disc* system, with indexing capability as a major feature. Six research studies are summarized. One (not already covered in this bibliography) explores the effect of repeated, continuous listening on the learning of literary and scientific materials by visually handicapped students in grades 4-6 and 9-12. A differential effect was found as a function of grade level and material. For high school students, consecutive repetitions produced greater learning for literary than science materials. Repeated listening was not effective for elementary students, and actually diminished learning for grades six and four.

American Printing House

American Printing House for the Blind. *Educational research, development, and reference group report on research and development activities—fiscal, 1970.* Louisville, Kentucky: The Author, 1970. Three major aspects of the Aural Study System continuing research are discussed, including: textbook design, aural study materials, and variables in learning by listening. An important study involved assessing the effect of message length and frame of reference on learning by listening (Brothers, 1970). The sample was composed of 160 blind high school students, divided into two groups according to ability. A recording of historical material was played for each group in two-, three-, four-, and six-minute segments, the intermediate time being used for note-taking. One half of the group heard a one-minute summary (frame-of-reference) prior to exposure to the material. Analysis of results revealed no significant difference between groups due to message length or frame-of-reference.

Arndt, C. O., & Husband, J. Listen. *English Journal*, 1940, **29**, 371-378. A general article giving information on the status of listening in education in the early 1940's.

Bateman & Wetherell

Bateman, B. D., & Wetherell, J. L. Some education characteristics of partially seeing children. *International Journal for the Education of the Blind, 1967,* **17**, 33-40. General reference on educationally relevant variables of partially sighted students in 33 special schools in grades 1 through 12.

Beery, A. Experiences in listening. *Elementary English*, 1951, **28**, 130-132. A "teacher's suggestion" article outlining techniques for teaching listening in the elementary classroom.

Biggs, B. P. Construction, validation, and evaluation of a diagnostic test of listening effectiveness. Unpublished doctoral dissertation, University of Denver, 1954. Summary: *Speech Monographs*, March, 1956, 23. A study was to construct a diagnostic listening test for college freshmen which measured behavior independent from reading effectiveness and scholastic aptitude. Validation procedures are described. The author concluded that development of such a test was feasible.

Bird, D. E. Bibliography of selected materials about listening. *Education*, 1955, **75**, 327-334. An annotated bibliography covering major areas of listening research prior to 1955.

Bird, D. E. Teaching listening comprehension. *Journal of Communication*, 1953, **3**, 127-130. A study employing the pretest-posttest control group, designed to examine the effect of a structured course in listening on the listening comprehension skills of college girls. Results were not significant, although poor listeners improved. (Also a reference to the Stephen's College Test of Listening Comprehension.)

Bischoff

Bischoff, R. W. Improvement of listening comprehension in partially sighted students. Unpublished doctoral dissertation, University of Oregon, 1967. Summary: *The Sight Saving Review*, Fall, 1967, **37**, No. 3. A landmark study in the develop-

ment of listening training for partially sighted students, to compare the listening comprehension of those who received training with those who did not. Differential effects of two types of listening programs were also evaluated. The "random stratified sampling" technique was used to divide 63 partially sighted subjects into three experimental groups. Subjects were chosen from grades four through nine. Listening lessons included one introductory and 19 follow-up exercises from: My Weekly Reader—Listening Comprehension Paragraphs, Editions 4th, 5th, and 6th; Common Sounds; and Science Research Associates—Listening skill builders, included with Science Research Associates Reading Laboratories 11a, 11b, 11c. A pretest-posttest design was used to test for significant gains in comprehension. The Sequential Test of Educational Progress, Listening, forms 3A and 3B, was used as the criterion measure. All reading was eliminated by use of a specially developed answer sheet. Results showed that both experimental groups made significant gains in comprehension ($p = 0.01$; $p = 0.05$).

Blake

Blake, H. E. A code for teachers of listening. *Elementary English*, 1962, **39**, 48-49. A practical list of educational goals for the teaching of listening skills; simplified format.

Blau, S. An ear for an eye: the compensatory transposition of sensory modes in the blind as a factor in making judgements of affect. Unpublished doctoral dissertation, Columbia University, 1961.

Blewett, T. T. An experiment in the measurement of listening at the college level. *Journal of Communication*, 1951, **1**, 50-57. A study describing the construction and revision of a listening comprehension test for college freshmen, with the associated goal of establishing the relationship of listening to other abilities. An interesting finding was that hearing acuity and "listening" were not conclusively related.

Bloom, A. K. Taught not caught. *English Journal*, 1954, **43**, 367-370. A description of the listening skills program at Forest Park High School in Baltimore, with a detailed lesson plan on critical listening. Good source for teacher planning.

Broadbent

Broadbent, D. E. The role of auditory localization in attention and memory span. *Journal of Experimental Psychology*, 1954, **47**, 191-193. An expository study of the nature of stimulus factors in binaural hearing.

Broiles, M. R. *A study of the effectiveness of teaching listening*. Report of the East Texas Study School Council, East Texas State University, 1969. The purpose of this study was to assess the effect of different methods of teaching listening on listening comprehension of college students, as measured by the Brown-Carlsen Test. Results indicated that the listening training produced no significant differences in scores.

Brothers, R. J. Aural study systems for the visually handicapped: effect of message length and frame of reference upon learning. Unpublished doctoral dissertation, George Peabody College for Teachers, 1970. See American Printing House for the Blind, 1970.

Brown, J. I. The objective measurement of listening ability. *Journal of Communication*, 1951, **1**, 44-48. The author of the Brown-Carlsen Listening Comprehension Test discusses the construction of the test and sources of variance in the subtests. This is one of the first standardized tests developed for measurement of listening as an independent skill area.

Brown, K. Speech and listening in language arts textbooks. *Elementary English*, 1967, **44**, 461-467. Research to examine the kind and quality of speech and listen-

ing content in language arts textbooks for grades three to six. A review of a representative sample of 54 textbooks, published from 1959 to 1964 disclosed very little emphasis in three areas. The authors concluded that direct instruction of listening was neglected at these grade levels.

Caffrey, J. G. An introduction to the auding concept. *Education*, 1949, **70**, 234-239. A discussion of Don Pardee Brown's concept of "Auding," as distinguished from hearing and listening. "Auding" is described as the interpretive phase of sound reception which includes the concept of comprehension and is parallel to reading in the visual realm. **Caffrey**

Caffrey, J. G. Auding ability at the secondary level. *Education*, 1955, **75**, 303-310. A study exploring the relationship of performance on the California Auding Test (CAT) with administrative and psychometric variables including: age, mental age, reading ability, interest, and mode of presentation (taped or live). Subjects included 1,200 secondary school students in grades 9-12. Results indicated a positive relationship between CAT scores, mental age, reading ability, and "live" presentation. Auding, reading, and interest immerged as related factors. Reliability coefficients of the CAT ranged from 0.84 (*F*) to 0.79 (*G*).

Caffrey, J. G. "Auding" as a research problem. *California Journal of Education Research*, 1953, **4**, 155-161. A defense of the definition of auding as "the process of embracing the hearing act, the listening act, and the comprehension act as one total experience." Prospective areas of research are also outlined.

Campbell, D. T., & Stanley, J. C. *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally and Company, 1966. Source for research design and appropriate statistics.

Carter, B. How to use educational recordings effectively: a survey of blind college students. *New Outlook for the Blind*, 1962, **56**, 332-334. A summary of the research done by Carter and Haskell (1961), in which a manual for the use of recorded material was developed (Recording for the Blind, 1962). Important results revealed that 93 percent of 366 college students preferred taped to disc material. Braille or print supplements were preferred by 50 percent of the group. *Carter*

Carter, B., & Haskell, M. R. The development of basic research materials and a manual on the use of recorded textbooks. Unpublished manuscript, Recording for the Blind, New York, 1961. (See Carter, 1962, and Recording for the Blind, 1962.)

Cathcart, R. S. An experimental study of the relative effectiveness of four methods of presenting evidence. *Speech Monographs*, 1955, **22**, 227-233. Research to determine the relative-effectiveness of four methods of presenting evidence in persuasive speeches. Results indicated that a high mean shift of opinion (as measured by the Woodward Shift of Opinion Ballot) occurred for speeches which used evidence to support claims. This shift was not significantly increased by citing authorities to qualify the source of the evidence.

Cosgrave, D. P. Aural comprehension tests and how to prepare them. *The Modern English Journal*, 1970, **1**, 5-16. A guide for the construction of teacher-made tests of aural comprehension. A brief answer, objective, multiple choice format is suggested, preferably recorded, to reduce the influence of voice variables. A method to ascertain content validity is also given. *Cosgrave*

Crowley, F. J., Lake, B. W., & Rathgaber, J. M. *A comparison of the listening ability of blind students and the listening ability of sighted students in the intermediate grades*. Fordham University, 1965. Sponsored by the Office of Education (DHEW), Washington, D.C., Division of Handicapped Children and Youth. A

study to examine the differences in listening ability of blind and sighted subjects as a function of: sightedness, order (of administration), and speed. The Sequential Test of Educational Progress, Listening was administered to 152 blind and sighted subjects in the intermediate grades, (four, five, six), at rates of 225 and 175 wpm. The ANOVA (Analysis of Variance) technique was used to test for interaction of variables. Results revealed that the sighted were superior to the blind in comprehension of expository and narrative material ($p = 0.05$). Comprehension of normal speed material was significantly better than increased speed material ($p = 0.01$). Tenability of the "keener sense" theory relating to the blind is questioned, and points to the need for specific educational intervention in "listening skills."

de Hoop, W. Effects and interaction effects of speaking role, visual limitation, and intelligence level on aural acquisition and retention of sentences. In E. Fouke (Ed.), *Proceedings of the Louisville Conference on Time Compressed Speech*. Louisville, Kentucky: University of Louisville, Center for Rate Controlled Recordings, 1967, 115-125. **de Hoop**

Deugau, D. A critical bibliography of listening materials. *Alberta English*, 1969, **9**, 14-23. Evaluation of eight instructional items (phonograph records and recordings), which may be used in training listening.

Devine, T. G. The development and evaluation of a series of recordings for teaching certain critical listening abilities. Unpublished doctoral dissertation, Boston University, 1961. A study to develop and evaluate a series of ten tapes designed to improve critical listening skills. Details of test construction and treatment are given. Results confirmed effectiveness of the program.

Dow, C. W. The development of listening comprehension tests for Michigan State College freshmen. Unpublished doctoral dissertation, Michigan State College, 1952. Abstract: *Speech Monographs*, 1953, **20**, 120. Research to develop a test of listening comprehension of expository materials measuring three basic skills: comprehension of main idea; notation of details; and the relationship of the main idea to details. Conclusion was that the test compared favorably with similar measurement instruments.

Duker, S. An annotated guide to audiovisual aids available for the teaching of listening. *Audiovisual Instruction*, 1965, **10**, 320-322. A compilation and description of a set of available instructional materials including seven films, one filmstrip, three taped courses, one speech, and two sets of phonograph records. A reference for commercial materials. *Duker*

Duker, S. A selected bibliography of teaching of listening at the secondary level. *Journal of Communication*, 1955, **5**, 7-15. General reference including an annotated 33-item bibliography of research in listening.

Duker, S. Goals of teaching listening skills in the elementary school. *Elementary English*, 1961, **38**, 170-174. A summary of the ten qualities of effective listening, stressing the need for pleasure in listening experiences. Reactive listening, reflective listening, retentive listening, critical listening, and selective listening are discussed.

Duker, S. *Listening bibliography*. New York: The Scarecrow Press, Inc., 1964. A comprehensive source of research abstracts in all areas of listening.

Duker, S. *Listening: Readings*. New York: The Scarecrow Press, Inc., 1966. Source of representative articles and studies on listening and its current status in education.

Duker, S., & Petrie, C. R., Jr. What we know about listening: continuation of a controversy. *Journal of Communication*, 1964, **14**, 245-249. Two articles, presented as opposing views, summarize the status of knowledge about listening for a 20-year period. Duker describes the basic trends in education and variables related to listening such as intelligence and reading ability. Petrie cautions the use of listening tests and programs, calling for greater intellectual scepticism and empirical study.

Durrell, D. D., & Sullivan, H. B. *Language achievement of mentally retarded children.* Office of Education Contract No. 6402. Boston: Boston University, 1962. A study exploring the language difficulties of mentally retarded children and attempting to discover "open channels" for education of these children. The sample consisted of 209 children, 67 primary and 142 intermediate, having I.Q.'s of between 50 and 70 on the Stanford-Binet Tests. A battery of tests was administered, including the Durrell-Sullivan Reading Capacity Test, to measure listening comprehension. Results showed that for the primary group, children were nearly 14 months above mental age in listening comprehension. For intermediate grades, the mean listening comprehension scores were nearly seven months above mental age. The authors concluded that "among language abilities, listening appears to be an 'open channel' for these children."

Erickson

Erickson, A. G. Can listening efficiency be improved? *Journal of Communication*, 1954, **4**, 128-130. A study investigating the possibility of improving listening by direct training; and the relationship of listening comprehension to other variables including reading, vocabulary, and intelligence. A pretest-posttest design was utilized to test the hypothesis that training does improve listening comprehension. Six control and six experimental classes of college freshmen were exposed to 19 training session. Material was selected from the McCall-Crabbs test lessons in reading (orally presented), and Brown's efficient reading. Test materials included: the Brown-Carlsen listening comprehension test; the Iowa silent reading test; the American Council on Education's psychological examination for college freshmen; the Inglis vocabulary test, form A. Results showed significant gains in comprehension for both the experimental and control groups. Middle and low intelligence groups profited most from the training. Gains in reading were significant also ($p = 0.01$). Note: "Practice effect" should be considered since no differential improvement is shown.

Experimental listening curriculum. Report of Project No. 6-8477, U.S. Department of Health, Education and Welfare. Washington, D.C.: Office of Education, Bureau of Research, 1969. A brochure prepared for visually handicapped children by Dominican College, Blauvelt, New York, stressing the development of sequential, directive, and discriminitive listening.

Fawcett

Fawcett, A. E. The effect of training in listening upon the listening skills of intermediate grade children. Unpublished doctoral dissertation, University of Pittsburgh, 1963. A study assessing the effects of instruction on listening ability. Sample included 322 pupils in grades four, five, and six. Treatment involved teaching with emphasis on main idea, supporting facts, details, and inference. The Sequential Test of Educational Progress, Listening, forms A and B were used as the criteria. The conclusion is that listening ability is a skill which can be improved by direct instruction and is related to reading comprehension, language, and arithmetic.

Fessenden, S. A. Levels of listening—a theory. *Education*, 1955, **75**, 288-291. A theory

of listening in terms of sound reception, selection, and recognition. Seven "I's" describe the listening process: 1) Isolate sounds; 2) Identify isolated sounds; 3) Integrate with past experience; 4) Inspect new and old data; 5) Interpret; 6) Interpolate meanings; 7) Introspect.

Forman, H. An experiment in the group use of the *Seashore Measure of Musical Talent*. *International Journal for the Education of the Blind*, 1958, **8**, 41-45. A study to develop a way of administering the Seashore Test to a group of blind students using a braille format. A guide for modification of the test for use in research and education.

Foulke

Foulke, E. Listening comprehension as a function of word rate. *Journal of Communication*, 1968, **18**, 198-206. Dr. Foulke, a member of the psychology faculty, University of Louisville, Kentucky, is an expert in the area of compressed speech. This is a study to discover the relationship between listening comprehension and rate of presentation. Subjects included 366 male and female sighted college students. The criterion for comprehension was a multiple choice test. A 2,925-word reading passage was compressed by the Tempo Regulator at rates varying from 125 wpm to 400 wpm. Results indicated that the relationship between word rate and comprehension is *not* linear. There was a rapid decline in comprehension beyond 250 wpm. The conclusion is that "beyond a certain point, available perception time is not adequate, and comprehension begins to decline rapidly."

Continued next month.

Record Attendance at World Council Assembly; Boris Zimin Elected President

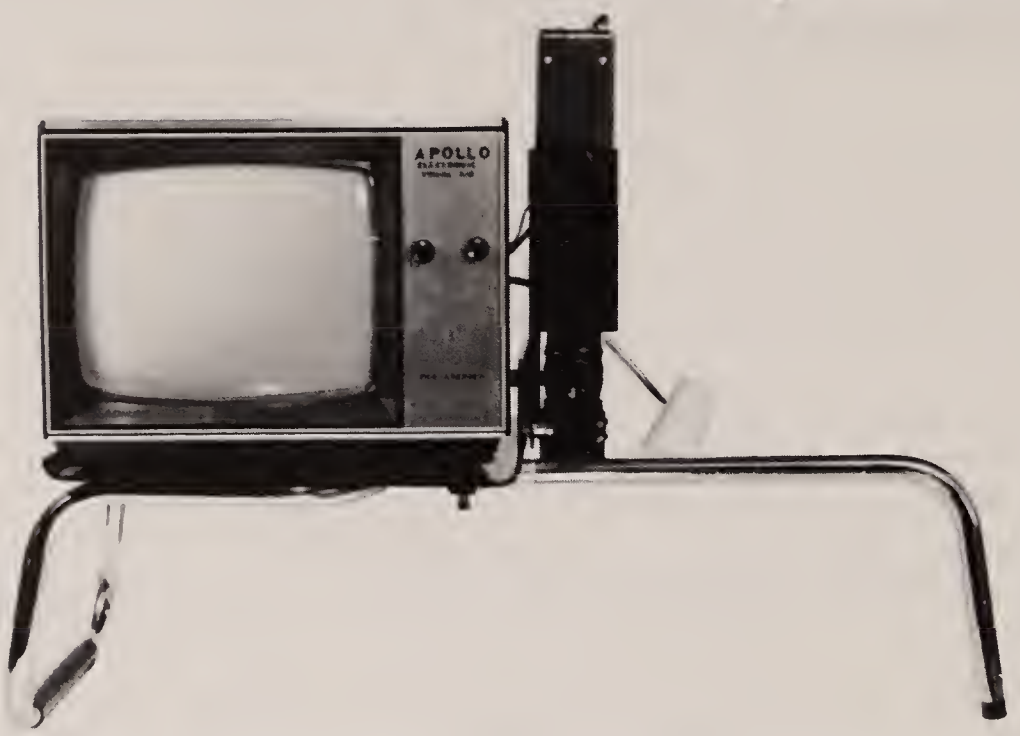
800 in Attendance

Approximately 800 persons from 50 countries, the largest number in its 25-year history, participated in the General Assembly of the World Council for the Welfare of the Blind (WCWB) at Sao Paulo, Brazil, in August. The persons attending included many observers, panelists, and aides as well as more than 100 official national delegates. The ten-day meeting ended with the election of Boris Zimin, leader of the delegation from the Soviet Union, to the WCWB presidency.

The Brazilian hosts

Hosted by the Brazilian organization, known in English as the Foundation for Books for the Blind, the Assembly not only was noteworthy for the array of professional topics presented and debated, but also for a variety of social and recreational events. Officials of the Brazilian national government and of

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the State of Sao Paulo were much in evidence welcoming visitors to their country and accolades for leadership for local arrangements were enthusiastically extended on many occasions to Sra. Dorina Nowill, president of the Foundation.

Zimin of the Soviet Union

The election of Mr. Zimin came after a motion was adopted that in an election where there is more than one candidate, arrangements must be made for a secret ballot. The nominating committee presented for the presidency only Mr. Zimin; Sra. Nowill was nominated from the floor. The secret ballot vote in favor of Mr. Zimin was 62 to 59. Subsequently, Sra. Nowill was unanimously elected to one of the five vice-presidencies.

New International Prevention Agency

☐ Historians will probably comment that the one most important outgrowth of the Sao Paulo meeting was the unanimous vote of support for the creation of a new international prevention of blindness agency. The new agency will supersede the existing International Association for the Prevention of Blindness with the word "agency" substituted for the word "association." At a meeting of the existing organization in Paris in May, John Wilson, executive director of the Royal Commonwealth Society for the Blind, was elected to the presidency of the new agency, the first time a non-ophthalmologist had been chosen. The structure of the new organization is designed to include representation and input from both the medical profession and the social service field; the WCWB will designate five persons to membership on the Executive Committee, and the ophthalmological group will name an additional five. Operating expenses during the formative months of its development will be met by the Royal Commonwealth Society.

Anders Arnor

Since the WCWB secretary-general for the past four years, Mme. Marcelle Cowburn, wishes to retire, an arrangement was made for the Swedish National Association for the Blind to act as secretary-general in the person of Anders Arnor. Mr. Arnor has been a general assistant for the past five years to the retiring WCWB president, Charles Hedkvist, and is considered a particularly fortunate choice because of the experience he has gained in that capacity. Administrative offices of the WCWB, however, will remain in Paris.

Postage stamp

Another highlight of the assembly was the first sale of a Brazilian postage stamp which in Portuguese braille and print carries the message of the desire of blind persons to be considered as fully-participating citizens. This may be the first time that any nation has issued a stamp dealing with the hopes and aspirations of blind persons.

Delegates From North and Central America

☐ The North and Central American official delegates to the conference were: Mrs. Mary G. Patterson, Ross C. Purse, and A. N. Magill of Canada; M. R. Barnett, Floyd Qualls, Cleo Dolan, Mrs. Ferne Roberts, and Miss Isabelle Grant of the United States; Mrs. Elisa de Stahl and Gustavo Hernandez Polanco of Guatemala.

The newly elected executive committee, according to normal practice, will meet in 1977, but the place of meeting has not been determined. Neither has the place of the next quinquennial assembly in 1979. Elected to the executive committee from the North and Central America region were Ross Purse, Canada; Mrs. Elisa de Stahl, Guatemala; M. R. Barnett, Floyd Qualls, and Mrs. Ferne Roberts, United States. —M.R.B.

Sensi-Quik

The Touch Cane for Walking Faster with Safety



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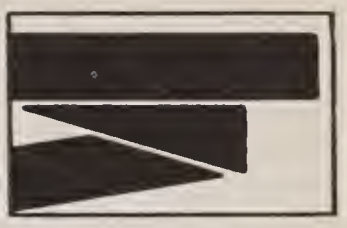
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Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1,000 words in length.*

A Message to Professionally Trained Rehabilitation Teachers of the Blind

Glenn S. Leavitt

At this time, when the field of rehabilitation teaching is young as a true profession and feels challenged and insecure, it is crucial that it be defined in the clearest way possible.

Dictionary definitions of the word *rehabilitation* stress restoration, yet seldom do we blind rehabilitation teachers restore anything, least of all vision. What professionally trained blind rehabilitation teachers do with an adventitiously blinded person is to guide him in the development of alternative and adaptive skills which allow him a greater degree of independence than he had when he first lost his sight, but probably significantly less independence than he had as a sighted person. In addition, work done with people who are congenitally blind involves primarily habilitation, not rehabilitation. However, the word *rehabilitation* is too much a part of the field to get rid of, so we have to allow the term to become professional jargon; we will have to agree on our own definition of the term as used within our profession, in spite of what the dictionaries say. Nevertheless, we can minimize the hazard inherent in the development of professional jargon, and perhaps influence some future lexicographer, if we take it as a solemn responsibility to make sure that everyone who comes in contact with us clearly understands what *rehabilitation* means in the professional field of work with people who are blind.

Rehabilitation teaching is that specific area of human services which *attempts to meet the needs of severely visually limited people who desire to function at a higher level of independence. The emphasis is on the development of adapted and alternative means to achieve greater independence in the areas of life affected by the visual limitation.* Rehabilitation teaching fills in the gap between the physiological help offered by the fields of medicine, occupational therapy, etc., and the skills and knowledge offered by the various types of educators trained to deal with the general population.

The place of the blind rehabilitation teacher may be made clearer by drawing an analogy with classroom educators. A third-grade teacher is expected to be an expert in the instruction of arithmetic to eight year olds, not mathematics; while a college professor is expected to be an expert in mathematics, not in how to teach young adults. Similarly, a professional blind rehabilitation teacher showing a frightened blind person the safe way to use a gas stove which he cannot see should not be expected to be an expert in home economics; by the same token, a professional home economist in an adult education class showing a blind person how to make *crepe suzettes* should not be expected to be an expert in the adaptive and alternative techniques of blind rehabilitation. Unfortunately, we see many examples of people with highly specialized preparation for one profession trying to function in another profession for which they have no preparation.

The development of a true profession of rehabilitation teaching has been the dream of many wonderful and dedicated people for a long time. With the advent of degree programs in this field, there is now a core of professionally trained blind rehabilitation teachers. It is therefore time to take firm and definitive steps to assure truly professional, expert service to the blind people who want and need it. Although occupational therapists, social workers, home economists, etc., will continue to be hired to do the work of professional blind rehabilitation teachers, they will remain professional occupational therapists, social workers, home economists, etc., trying to fill in for a professional blind rehabilitation teacher who was not or could not be hired.

Who suffers most from such a situation? —the individual blind person who wants and needs to learn the specific alternative and adaptive techniques which only the professionally trained blind rehabilitation teacher has mastered *before* he starts working with people who are blind. The field is not being threatened by the fact that many people without professional training in blind rehabilitation teaching are functioning in the capacity of blind rehabilitation teachers. The most serious threat to the profession and the blind people it serves is the failure of professionally trained blind rehabilitation teachers to realize that they are professional people with a clearly unique field of endeavor and hundreds of thousands of human beings who want and need the services that they alone are specifically trained to provide.

Throughout these remarks, the words *profession* and *professional* have been used but not defined. The crucial factor in differentiating a *job* from a *profession* is the matter of primary allegiance. A person hired to do a job has primary allegiance to the organization or company that hires him. A professional person should also be faithful to the organization or company

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with which he is associated, but his primary allegiance is to his profession and to the people it serves.

Mr. Leavitt is a blind rehabilitation teacher with the Michigan Rehabilitation Center for the Blind, Kalamazoo.

All or Nothing: Dogma in Work for the Blind

Lea Levavi

At one time, it was fashionable—not to mention expedient—to channel most blind college graduates into work for the blind, whether or not they had the aptitude or the desire to work in this field. However, recent breakthroughs in employment opportunities for educated blind persons have now reversed the trend to the other, and equally dogmatic, extreme. In many quarters, blind people who want to make their careers in rehabilitation of the blind—and who have the necessary talents and abilities to make a significant contribution in this field—are being discouraged from doing so, on the grounds that blind people should do "other things" and leave professional work for the blind to sighted experts.

The field of rehabilitation is founded upon the highest ideals of human dignity and respect for the individual. It is perhaps for this reason that I, as a blind person, find this "all or nothing" approach so disquieting.

My first encounter with it was during my college days at New York University, where I studied journalism and business administration. I would have had no objection, of course, to being employed in a public relations or administrative capacity in an agency for the blind. But I objected vehemently when, simply on the grounds of blindness, rehabilitation workers in several states suggested that I enter either home teaching or rehabilitation counseling.

"All our blind college graduates go into the helping professions," a Maryland rehabilitation worker told me when I asked his help in finding a public relations job. I tried to point out to him that I did not think I would make a good teacher or counselor because it was not what I wanted to do. If I had been forced into such work simply because of my inability to find employment in the profession of my choice, I could very well have become embittered and projected negative feelings onto my blind clients.

What, for instance, would I have done if a client of mine had wanted to study journalism? Would I have given him the "realistic," and defeatist, advice not to try because I had failed? Might I also have had some unconscious fear of the client's succeeding at what I had not been able to do? But all these considerations failed to influence the worker who was trying to advise me. He continued to feel that I had no choice but to "face facts" and start graduate studies in one of the professions he had suggested.

Fortunately, it didn't come to that. I got my public relations job, in a U.S. Government agency, and remained there until I decided to move to Israel.

Here, I encountered the other side of the coin. Since my motives for coming here were idealistic, and since I was appalled at the condition of most blind persons in Israel, I began to feel that perhaps my most meaningful way of serving my new country would be to enter the field of rehabilitation of the blind. First they told me that I could make more of a contribution to helping the blind by remaining a journalist (I had become a staff writer on a local newspaper, where I am still employed) than as a rehabilitation professional. This may or may not be so—but what concerned me was the general consensus that rehabilitation work should be left to the sighted and blind persons should engage in anything else but helping the blind. At first, I thought this was an Israeli philosophy, but I later heard it from visiting American experts in the field, including some who were unaware of my own newly-acquired interest in entering the field.

I have not written this in order to tell my own story. The personal experiences related here are meant only to illustrate the point. My own very simplistic belief is that blind persons, like sighted persons, should be judged—and should judge themselves—on the basis of their abilities and not in terms of their disability. In principle, I am sure every rehabilitation worker everywhere would agree with me—for it is on that very premise that the whole structure of rehabilitation is founded. However, isn't there a discrepancy between practice and preaching when a blind person is either forced into, or kept out of, work for the blind?

Ms. Levavi is a journalist in Tel Aviv.

Employment of the Blind in the United States Before 1940

Warren Bledsoe

There is a stock opening paragraph to speeches and articles about employment of the blind in the United States: "neat, plausible, wrong."* It dates back to the early part of the century and it says that before the present, dynamic effort in which I or we are engaged, the blind people of this country were relegated to (here insert whatever activity preceded the innovation about which the speaker (or writer) is going to speak or write). Then comes a "fie-fie-fie-upon-it" denunciation of such relegation. Next comes self-adulation for the innovation of the era which the speaker or writer has initiated or been a part of initating. Broom-making, mattress-making, piano-tuning, chair-caning, hand and machine sewing, knitting, crocheting, rug-weaving, and making baskets were thus heralded as they were introduced and thus hooted off the stage in due season after the fear of (and difficulties with) blindness had woven tendrils about them.

A refreshing departure from this was an article prepared by S. M. Green of the Missouri School for the Blind for the Second Triennial International Conference on the Blind, held in Manchester, England, in 1908. His title was "The Technical Training and Industrial Employment of the Blind in the United States." He gave some statistics from the 1900 Census of the United States with respect to the status of blind people. By the admittedly rough-and-ready fact-gathering methods of the turn of the century, there were 64,763 blind people in the United States. And by the admittedly

*Adjectives appropriated from H. L. Mencken who applied them to "the solution to every social problem."



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rough-and-ready methods of the day, these benighted statistical ancestors of ours had already determined that over 60 percent were over 50 years of age, and 48.2 per cent over 60 years of age, both of which assortments have in our time been announced by statisticians as extraordinary new sociological discoveries and, moreover, a new and entirely different profile of blind people.

Green's article and the U.S. Census of 1900 give arresting perspective to the "utterly backward and benighted past" formula for lamentation with respect to employment of the blind in the days before yesterday. Consider the following sentence which appeared in a recent paper: "In times past, society left its physically handicapped brothers with dismal prospects. The blind could make brooms or sell pencils but little else." Consider then the figures of the census of 1900, as quoted by Green: "The 38.5 percent of working age gives 24,920, of whom 10,668 are women; 12,506 are engaged in profitable occupations; 891 are farmers, planters, and overseers; 766 are musicians and teachers of music; 206 are merchants and dealers, while 75 are teachers and professors in college; 545 are labourers; and 416 are agents. For the adult blind, there are five industrial homes and six shops, with nearly 600 workers . . ."

Some 600 blind people were in shops and industrial homes and 10,000 blind people were working outside of sheltered employment in 1900! Our benighted past: Our benighted ancestors, who relegated blind people to sheltered employment. No hip-and-thigh attack on methods of gathering census statistics can totally wipe out the major thrust of these figures, especially when they were regarded as reasonable by S. M. Green, an extremely intelligent educator of the blind, and also scrupulously honest in an old school of honesty.

Are we really doing so badly these days that we must keep harping on this false note about everything in the past having been mean, false, and cruel? Is this the only way to make ourselves look good?

There was a very good reason why there was not more sheltered employment in the United States. This was because Howe, in a famous opinion given in his 1849 report of the Perkins School, denounced "charitable tyranny" and segregating mechanisms. His denunciation was greatly taken to heart by American educators of the blind who were extremely reluctant to found workshops; most of these same educators were dead against the idea of working at home.

Consider this paragraph from Green's 1908 essay: "The Massachusetts Commission for the Blind maintains a shop for men, and one for women at Cambridge, which are the latest additions to shops for the blind, being the outgrowth of the Experiment Station industrial work for the blind, founded in 1904 under the supervision of Mr. Charles F. Campbell, who has given efficient service to the cause of the blind by extending the limited field of the occupations open to the unsighted by placing the blind worker by the side of his seeing brother in factory work. Stringing hair pins, cutting box corners in the box factory, stripping tobacco and weaving art fabrics in artistic patterns—are the contributions due to Mr. Campbell's energy. The weaving of artistic fabrics and rugs, portieres, and draperies, has been inaugurated by Mr. Campbell, and has been adopted by the Michigan Industrial Home. Similar work has been done by the New York Association for the Blind organized in 1905. Telephone switchboard operating, making bead shades for electric light globes, and opera glass bags, making wire hat frames and trimmings, and shampooing are the new occupations due to this association's efforts."

And consider these paragraphs: "Out of the 97 graduates of the Overbrook School in the last 12 years, many of whom are successful as piano tuners, music and literary teachers, we find a cotton planter, politician, poultry raiser, evangelist, city missionary, custom laundress; 75 percent are favorably accounted for. Among the expupils, we find workers in box factory, tape factory, a phrenologist, a coal dealer and a florist.

"Among the occupations followed by pupils of the New York City School, we find the unusual one of plumber's helper, helper in printing office, iron foundry man, book-binder, professional checker player, postmaster, truck driver, and tax collector. [Here it seems the truck was drawn by a seeing-eye horse.]

"For six years a graduate of the Missouri School has had the entire control of the telephone exchange for a small town, and has performed all the work with the help of one assistant. Another totally unsighted graduate has assisted his father and brother in loading freight, and has also tended two teams. One man, in Fulton, Mo., has carried the loaded moulds in a pipe and tiling factory."

In viewing the past, we may well take into account the career of one of our far-from benighted professional ancestors, Liborio Delfino (1880-1937), a pioneer placement specialist in Pennsylvania. He once made more than 20 calls on factories and wrote 126 letters to secure one placement. Another individual whose work is worth recalling is Joseph F. Clunk (b. 1895), creator of the role of the blind selective placement specialist in the governmental programs of the United States and Canada and the first chief of Services to the Blind in the U.S. Government following passage of the Randolph-Sheppard Act in 1936.

Undoubtedly it can be expected that carpers with these comments may be expected to say first that nothing was done in the old days for the rank and file. And when it is pointed out that S. M. Green described a number of humble occupations, we can expect to hear uttered the opinion that nothing was available for the gifted but rank and file jobs.

There is an old history of recognition of this problem and attempts to do something about it. Newell Perry, Ph.D. (1873-1961), for example, agitated for a college education first for himself and then for other blind students. He lobbied in New York for a law to appropriate money for readers for blind college students. He also was head teacher at the California School for the Blind, where for 36 years he actively worked at preparing blind students for college.

It was for the students for whom Newell Perry opened up higher education that Joe Clunk and his colleagues found jobs. One is now director of civil rights compliance in the U.S. Department of Health, Education, and Welfare.

Mr. Bledsoe is chief consultant to the Division of Services to the Blind, U.S. Social and Rehabilitation Service, Washington, D.C.

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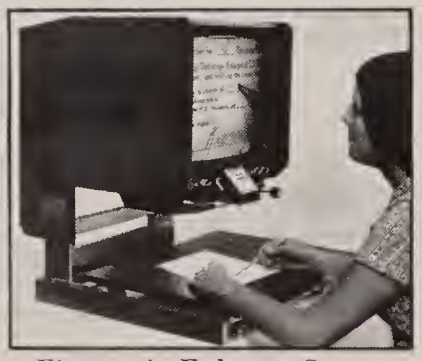
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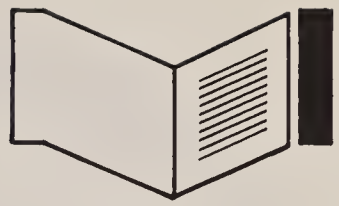
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Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

Blind Pre-School; A Manual for Parents and Educators, compiled by Billie M. Taylor. Industrial Printers of Colorado, Inc. (4923 Northpark Drive, Colorado Springs, Colorado 80907), 1974, 49p. $3.95. Revised edition of a manual concerning general development and suggested activities for young blind children. The compiler, who is a teacher at the Colorado School for the Deaf and the Blind, is the mother of a blind daughter.

How I Perceive the World Around Me, by Olga Skorokhodova. *The Unesco Courier* (Unesco Publications Center, P.O. Box 433, New York, New York 10016), March 1974, pp. 10-14. 85 cents. Excerpts from a book by the deaf-blind poet and essayist who has been called the "Helen Keller of Russia." Miss Skorokhodova lost first her sight and then her hearing at age five as a result of meningitis. She describes how she uses her tactile and vibratory senses in her efforts to imagine and comprehend the world.

Detection and Lateralization of Interaural Differences of Time and Level by the Blind, by Dennis McFadden. *Perceptual and Motor Skills* (Box 1441, Missoula, Montana 59801), Vol. 38, No. 1, February 1974, pp. 211-215. Comparison of performance by blind and sighted subjects on auditory tasks involving binaural cues. A more complete description of this research is available as Document NAPS-02279, entitled *Further Examination of Detection and Lateralization of Interaural Differences of Time and Level by the Blind* from Microfiche Publications, 305 East 46th Street, New York, New York 10017. Remittance of $1.50 for microfiche or $13.10 for photocopy should accompany order.

Auditory and Visual Sequential Braille Communication, by Willard R. Thurlow. *Perceptual and Motor Skills* (see address above), Vol. 38, No. 3, Part 1, June 1974, p. 1000. Brief note suggesting possible new uses of the braille code, particularly for the profoundly deaf.

Demonstrating Behavioral Change of Deaf-Blind Children, by David Tweedie. *Exceptional Children* (The Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091), Vol. 40, No. 7, April 1974, pp. 510-512. Brief report on the procedure for evaluating performance improvement in deaf-blind multiply handicapped children by using video tape recordings of behavior in daily real life situations.

Educational Programming for Multihandicapped Deaf-Blind Children, by Mary Mira and Sandra Hoffman. *Exceptional Children* (see address above), Vol. 40, No. 7, April 1974, pp. 513-514. Brief description of problems encountered in training school age deaf-blind children. The study is based on repeated evaluations of 35 children plus continuous observation of several children in an educational program.

Reading Attainment of Blind and Partially-Sighted Children; A Comparative Study, by W. J. McLaughlin. *The Teacher of the Blind* (Royal School for the Blind, Church Road North, Wavertree, Liverpool, L156TQ, England), Vol. 62, No. 3, Spring 1974, pp. 98-106. Report on results of a British study of 12 blind and 31 partially sighted students.

Language Awareness and the Deaf-Blind Child, by Ann Kennedy. *Teaching Exceptional Children* (The Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091), Vol. 6, Winter 1973, pp. 99-102. The author, who is director of teacher education at the Interprovincial School for the Deaf in Amherst, Nova Scotia, Canada, discusses the problems of the multiply handicapped child who has no concept of the function of language.

Understanding Blindness and Visual Impairment, by David M. Compton and Pete Veglahn. *The Braille Monitor* (National Federation of the Blind, 2652 Shasta Road, Berkeley, California 94708), June 1974, pp. 281-283. Report on the Institute on Recreation and Blindness held at the University of Iowa in December 1973, which brought recreation students into personal contact with blind consumers to achieve a better understanding of recreational needs.

A Survey and Proposal Concerning Visual Care at the Nursing Home Level, by Wendy J. Leslie and David A. Greenberg. *Journal of the American Optometric Association* (7000 Chippewa Street, St. Louis, Missouri 63119), Vol. 45, No. 4, April 1974, pp. 461-466. Survey of 27 nursing homes in Boston, Massachusetts, with a flow chart illustrating a proposed scheme for comprehensive visual care of geriatric patients.

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I Feel Happy and Silly, by Jane Hall. *TV Guide* (Triangle Publications, Inc., Radnor, Pennsylvania 19088), Vol. 22, No. 27, July 6, 1974, pp. 8-9. The title is a quote from one of the deaf-blind youngsters from Perkins School for the Blind, Watertown, Massachusetts, who were allowed to examine the sets, control room and sound effects section at the ABC television studio where the filming of the soap opera "One Life to Live" takes place.

Check Mate!—The U.S. Braille Chess Association. *The Braille Forum* (American Council of the Blind, 106 N. E. 2nd Street, Oklahoma City, Oklahoma 73104), Vol. 12, No. 5, March-April 1974, pp. 18-21. History of the Association which was formed in July 1967 by a small group of blind players in the San Francisco, California area.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Attitudes

Sexism and Youth, edited by Diane Gersoni-Stavn. (R. R. Bowker Order Department, P.O. Box 1807, Ann Arbor, Michigan 48106), 1974. 440 p. $9.95. An anthology examining the rigid attitudes about sex roles formed during childhood and adolescence and offering solutions to the complex problems they present. 47 articles by noted authorities reveal how our homes, schools, media, children's literature and entertainment perpetuate sexist myths.

Consumerism

Charities: Which Ones Are Worth Giving To? by Carl Bakal. *Reader's Digest* (Reader's Digest Assn., Inc., Pleasantville, New York 10570), Vol. 103, February 1974, pp. 82-86. "In contributing $60 million a day to charities now, Americans are setting an all-time record for generosity—and gullibility. Here are some tips for distinguishing the worthy causes from the unworthy."

Directories, Catalogs, Lists

Spanish-Language Health Communication Teaching Aids, DHEW Publication No. (HSM) 73-19, January 1973. (U.S. Department of Health, Education, and Welfare, Public Health Service, Health Services Administration, 5600 Fishers Lane, Rockville, Maryland 20852). An annotated Spanish-English bibliography of printed materials and their sources to serve individuals and organizations involved in health communication activities among Spanish-speaking Americans.

Guide to Audiovisual Aids for Spanish-Speaking Americans, DHEW Publication No. (HSA) 74-30, October 1973 (see address above). A list of health-related films, filmstrips, and slides in Spanish, their descriptions and sources.

Films

To Live With Dignity, Institute of Gerontology (University of Michigan at Ann Arbor and Wayne State University in Detroit), 1972, 29 min., 16 mm., color. Describes a three-month project to help 20 elderly patients at Ypsilanti State Hospital become more self-sufficient and aware by involving them in social interaction groups and various activities.

Never Too Young, Walton Development Center, Delayed Development Unit (4131 N. Crown Street, Stockton, Calif. 95207), 16 mm., color. Free. Explains the importance and nature of an early intervention program for handicapped infants and their families. Produced by the Delayed Development Project (San Joaquin County, Calif.), an educational program designed to promote growth and development in handicapped children under the age of three.

Limited Vision

beautiful! Visual Information About Partial Sight. American Optometric Association (7000 Chippewa Street, St. Louis, Missouri 63119), 4p. Free. Lists and illustrates the major types of newly developed low vision aids, whose function is to rehabilitate the patient by making the best possible use of his remaining vision.

Psychology and Perception

Community Psychology and Social Systems, by Stanley A. Murrell, Ph.D. (Behavioral Publications, 72 Fifth Avenue, New York, N.Y. 10011), 287p. $9.95. Discusses the emergence of community psychology, a new area of applied psychology whose aim is to accurately assess relationships, identify problems, and introduce helpful changes into social systems.

Recreation

Lilias, Yoga and You, by Lilias Folan and Mrs. Arthur Hoffheimer (WCET-TV, 2222 Chickasaw Street, Cincinnati, Ohio 45219), 1974. 2 vols. 147p. $3.00. Lilias Folan is the star of WCET-TV's popular hatha yoga series and author of **Lilias, Yoga and You** (1972), an illustrated 79-page book designed to help her TV students practice on their own. In order to accommodate her visually handicapped and blind students, who have found hatha yoga especially helpful, the authors have produced a braille version of the same book, revising directions and transforming photographs of postures into raised-line drawings.

Social Work

Developments in Human Services, Volume I, edited by Herbert C. Schulberg, Ph.D. (Behavioral Publications, 72 Fifth Avenue, New York, N.Y. 10011). 536p. $16.19 hard, $12.95 set of four paper separates, or $3.95 each paper separate. "First volume of an encyclopedic series which will annually publish in-depth discussions and reviews on a variety of human services topics, focusing on concrete approaches to planning and administrative problems, program concepts, and personnel training."

Statistical Surveys

Selected Characteristics of Nursing Homes for the Aged and Chronically Ill: United States—1969. National Center for Health Statistics, Health Services and Mental Health Administration, U.S. Public Health Service. *Vital and Health Statistics* (available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Series 12, No. 23, DHEW Publication No. (HRA) 74-1708, January 1974, iv + 38p. 80 cents. Based on data collected from June through August 1969.

In Brief

■ Senator Jacob K. Javits of New York and Alexander F. Handel, executive director of the National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, will receive the 1974 Migel Medals for outstanding service to blind persons from the American Foundation for the Blind.

The medals, established in 1937, in honor of the late M. C. Migel, first president of the AFB, are designed to recognize professionally employed practitioners in education, rehabilitation, and social welfare concerned with blind persons, and lay persons who have voluntarily dedicated themselves to advancing services for blind persons.

Mr. Handel is receiving the professional award and Senator Javits the layman award.

Senator Javits has been the ranking Republican member of the Senate Committee on Labor and Public Welfare since 1964. The Committee handles all labor, health, education, and rehabilitation legislation. Senator Javits has long had an interest in the education of handicapped children and in the rehabilitation of blind and other severely handicapped adults, according to M. Robert Barnett, executive director of the AFB. He was the author of the 1971 amendments to the Wagner-O'Day Act which expanded the program to other severely handicapped persons while insuring permanent priority to blind persons.

Mr. Handel is receiving the award because of his major role in the establishment of the National Accreditation Council for Agencies Serving the Blind and Visually Handicapped (NAC), of which he has been executive director since its founding in 1967. Previously he was executive director of the Council's predecessor organization, the Commission on Standards and Accreditation of Services for the Blind (COMSTAC), 1964 through 1966.

"Mr. Handel's devotion to the principles of accreditation and his unceasing work on behalf of NAC ultimately will help assure blind persons and the communities in which they live of better services provided by agencies serving the blind," Mr. Barnett said.



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The awards will be presented October 24 at the Foundation headquarters in New York.

■ The Community Council of Greater New York recently received a substantial grant from the Rockefeller Brothers Fund to establish a three-year demonstration program to coordinate the findings of social research conducted in New York City. The program is to produce an up-to-date directory of current social welfare research in the city, to analyze completed research programs, and to convert research findings into program guides. The program, to be called the Research Utilization Unit will be located within the Community Council's Department of Research and Program Planning Information. "The goal of this effort," according to *Better Times,* the newsletter of the Council, "is to see that the implications of findings reach appropriate citizen and professional leaders concerned with the effective development and delivery of health and welfare services."

■ M. Robert Barnett, executive director of the American Foundation for the Blind and the American Foundation for Overseas Blind since 1949, and editor-in-chief of the *New Outlook* since 1954, has announced that he plans to retire at the end of 1974.

A later issue of the *New Outlook* will contain Mr. Barnett's reminiscences of his 20 years as editor-in-chief of this journal.

■ Alexander Handel, executive director of the National Accreditation Council of Agencies Serving the Blind and Visually Handicapped (NAC) will retire on December 31, 1974. Mr. Handel is also a member of the *New Outlook's* editorial advisory board.

As previously announced, Dr. Richard W. Bleecker will succeed Mr. Handel as executive director of NAC.

■ Scientists working at the Atomic Energy Commission's Argonne National Laboratory have developed and are testing a new reading machine for the blind invented by Arnold Grunewald, an associate mechanical engineer at Argonne. With the Argonne Braille Machine, about the size of a portable typewriter, reading material stored in coded symbols on magnetic tape appears as a series of raised braille dots on a moving plastic belt which the blind user touches with his fingertips. Use of this machine and reproductions of its magnetic tapes could dramatically increase the availability of books for the blind because of great savings in cost and bulk over conventional braille books. Subsidizing cost of the machines by government and private foundations could make them readily available.

■ Visualtek, designers and manufacturers of electronic visual aids for partially sighted and legally blind people, now provides free of cost Spanish editions of their User's Manuals, which offer complete instructions on the operation of Visualtek's Read/Write Systems. For more information, write Visualtek, 1901 Olympic Boulevard, Santa Monica, California 90404.

■ Volunteers With Vision is a program sponsored by the Library of Congress for individuals who wish to help in providing library materials to blind and physically handicapped people. Some of the many valuable services volunteers may perform are transcribing braille, recording books on tape, producing large type manuscripts, and reading to students. For more information, write Division for the Blind and Physically Handicapped, The Library of Congress, Washington, D.C. 20542.

■ A detailed plan for the establishment of a national center for health education of the public is being developed by the National Health Council. The project, funded under a $259,816 contract with the U.S. Department of Health, Education, and Welfare, was one of two key recommendations from the President's Committee on Health Education. According to the Committee report, such a center is needed "to stimulate, coordinate and evaluate health education programs" and its objective would be "to improve the health of the American people through health education."

■ Mandated by the Rehabilitation Act of 1973, an Office for the Handicapped has been formed in the U.S. Department of Health, Education, and Welfare. Its purpose will be to analyze present HEW services to handicapped people, encourage coordination among various programs serving handicapped people, and act as a clearing house for information for and about the handicapped.

■ The National Accreditation Council for Agencies Serving the Blind and Visually Handicapped has recently accredited three agencies for the blind: Florida Bureau of Blind Services, Tallahassee; Guiding Eyes for the Blind, Yorktown Heights, New York and Raleigh Lions Clinic for the Blind, Raleigh, North Carolina.

■ Washington, D.C. offers a guide which describes arrangements for handicapped persons at the capitol's famous monuments and contains phone numbers for handicapped persons to call if they need special arrangements at public buildings. For a free copy of the brochure, write Handicap, Washington Area Convention and Visitors Bureau, 1129 20th Street, N.W., Washington, D.C. 20036.

■ Books in braille, tapes, and cassettes are available postage free to any blind or physically handicapped person on a free-loan basis for a four-week period. For more information, write Mrs. Alma Cravatt, Librarian, A.R.E. Braille Library, P.O. Box 595, Virginia Beach, Virginia 23451.

■ The oxygen in the respirators that keep premature infants alive is still a threat to babies' eyes, warns Dr. Thomas R. Boggs, Jr., chief of newborn pediatrics at Pennsylvania Hospital. The only sure answer to the dilemma of retrolental fibroplasia, the oxygen-caused condition blinding or severely damaging the eyes of premature infants, lies in prevention of premature births by improved nutrition and medical care for pregnant women and by better family planning.

■ Three pamphlets by the Massachusetts Division of the American Cancer Society are now available in braille editions. They are "Cancer Facts for Men," "Cancer Facts for Women," and "A Breast Check," instructing women in the method of self-examination for breast cancer. These free pamphlets are distributed by the National Braille Press, 88 St. Stephen Street, Boston, Massachusetts 02115.

■ The Jewish Guild for the Blind has set up a telephone monitoring system for those residents of the Guild's Home for the Aged Blind who have pacemakers. By means of a direct telephone hookup from the Home to Montefiore Hospital in the Bronx, doctors at Montefiore can provide speedier treatment for a patient when a problem arises.

■ The Instructional Materials Center for Special Education closed in August 1974, after nine years of continuous service to special educators in California, Arizona, and Nevada. The more than 15,000 materials and research items of the library shelves have been evenly distributed to the Associate Centers located throughout the three states.

■ The Contemporary Fiction Series has available its inaugural edition, Stanley Elkin's "The Guest," read by the author on C-90 cassette tape. To order, send $6.00 for numbered editions or $8.00 for hand-lettered editions to Printed Voice, P.O. Box 727, St. Louis, Missouri 63188.

■ Anna McCollough and Thomas Craft were married on May 4, 1974 in Hazlehurst, Mississippi. They are both deaf-blind and their marriage may be the only such union in the United States. Both Mr. and Mrs. Craft work in the packing department of Royal Maid, Inc. Workshop for the Blind, where Mr. Craft was voted Blind Worker of the Year.

Appointments

■ The Cleveland State University, Cleveland, Ohio, Department of Social Service: **Richard L. Welsh, Ph.D.,** assistant professor and coordinator, Blind Rehabilitation Program.

■ National Braille Press Inc.: **W. Ward Willett,** executive director; **Louis B. Dennis,** managing director.

■ Blinded Veterans Association, Field Service Program: **Charles Henry Monroe, Jr.,** Southeastern field representative, Atlanta.

■ U.S. Department of Health, Education, and Welfare: **Stuart H. Clarke,** regional director, Dallas Region; **Andrew S. Adams, Ph.D.,** commissioner of the Rehabilitation Services Administration; **John C. Young,** commissioner of the Community Services Administration, Social and Rehabilitation Service; **Kenneth B. Hoyt, Ph.D.,** associate commissioner for career education, Office of Education; **Joan Hutchinson Miller,** deputy assistant secretary for legislation for welfare and rehabilitation affairs; **Nancy Porter,** special assistant to the secretary for external affairs.

Awards

■ German Ophthalmological Society, Franceschetti-Liebrecht Prize: **Professor Paul Bach-y-Rita, M.D.,** San Francisco.

■ Vocational Rehabilitation for the Blind, Regional Case of the Year Award: **Wendell Cox,** caseworker counselor.

■ The Industrial Home for the Blind and the Perkins School for the Blind, 1974 Anne Sullivan Macy Award: **John Joseph Murphey,** St. Louis, Missouri.

Coming Events

October 6-10 International Senior Citizens Association, Sixth Biennial Congress ("Senior Citizens in Social Action"), Los Angeles.

October 14-18 National Rehabilitation Association, National Conference, Las Vegas.

October 15 White Cane Safety Day.

October 18-25 American Occupational Therapy Association, Washington, D.C.

October 20-25 National Recreation and Park Association, Denver.

October 24 American Foundation for the Blind, Foundation Day, New York City.

October 27-31 International Association of Pupil Personnel Workers, 60th Annual Convention, Atlantic City, New Jersey.

October 28-November 1 Gerontological Society with American Geriatrics Society, 27th Annual Scientific Meeting ("Aging and Intervention"), Portland, Oregon.

October 30-November 1 American Association of Workers for the Blind, Mid-Atlantic States Regional Conference, Philadelphia.

November 1-3 Association for Advancement of Behavior Therapy, Eighth Annual Convention, Chicago.

November 3-6 Sixth Annual Midwestern Behavior Modification Workshop/Intensive Practicum Workshop, Chicago (contact: Joan F. Bassinger, M.D., P.O. Box 597, Libertyville, Illinois 60048).

November 6-12 American Nursing Home Association, 25th Anniversary Annual Convention, Honolulu.

November 7-10 World Congress on Dyslexia (sponsored by the Orton Society in cooperation with the Mayo Clinic), Rochester, Minnesota.

November 17-20 American Society of Allied Health Professions, New Orleans.

November 21-22 Institute of Human Nutrition of Columbia University, College of Physicians and Surgeons, Symposium on Nutrition and Aging, New York City.

1975

January 14-15 National Braille Association, Regional Meeting and Workshops, St. Petersburgh, Florida.

April 20-26 Council for Exceptional Children, 53rd Annual International Convention, Los Angeles.

Classified Listings

Rates: Non-display—$2.00 per line (minimum: $10.00); Display—$13.00 per column inch (minimum: one inch). Anonymous, box-numbered ads are only accepted for personnel listings. Advertising is subject to editorial approval. A rate and information card is available on request. All correspondence should be directed to the Classified Advertising Department, New Outlook for the Blind, 15 West 16th Street, New York, N.Y. 10011.

AIDS AND APPLIANCES

Aud-a-Reader. Battery-AC disc player for 8-1/3 and 16-2/3 rpm. $40.00. SFB Products, Bala-Cynwyd, Pa. 19004.

Instruments, Recreation Equip. Sound or print catalog. Science for the Blind Products, Bala-Cynwyd, Pa. 19004.

CATALOGS

Optacon Catalog—products and services—a complete listing of Optacon Systems, Accessories, Training Course, and Training Material prices. Products are also pictured and described in detail. Write Telesensory Systems, Inc., 1889 Page Mill Road, Palo Alto, California 94304.

Aud-a-log, new 90-min. soundsheet catalog (8-1/3 rpm) of instruments for blind and visually limited. Free. SFB Products, 221 Rock Hill Rd., Bala-Cynwyd, Pa. 19004.

FILMS

A Matter of Inconvenience, 16mm, SOF, color, 10 min. A documentary about a group of enthusiastic young skiers who perceive their disability as more of an "inconvenience" than a handicap. The film is being widely used in mobility presentations, staff inservicing, and parent and community education programs—in settings where the theme of the active, involved blind individual is stressed. Purchase $150, rental $20. The Stanfield House, 900 Euclid Avenue, P.O. Box 3208, Santa Monica, CA 90403.





The Halifax Junior Bengal Lancers' Club in Nova Scotia, Canada, has recently begun to offer riding classes to the students of the Halifax School for the Blind and a few outpatients of the Isaac Walton Killam Hospital Rehabilitation Department. *Above left:* Carolyn Hinson, a club instructress, adjusts the bridle, as Marie Ritchie prepares to mount Show Piece with the assistance of Penny Bell, a volunteer. *Above right:* Debbie Edwards, left, riding Gingersnap, and Mary Lacell, on Schwartz, are led over the cabaletti by Dara Eisenor, left, and Ann Mellon. *Back cover, top:* Carolyn Hinson, left, checks Aurele Lavigne's stirrup while Debbie Edwards, center, with volunteer Dara Eisenor, and Patrick Wilmot await the start of the day's lesson. *Back cover, bottom:* Volunteers Abbie Grant, left, and Dara Eisenor, right, hold the reins of Bambino and Gingersnap respectively, as Andy Blanchard and Debbie Edwards prepare to mount. All of the riders pictured here are students at the Halifax School for the Blind. The manager and chief instructor of the club is Philip Hinson.





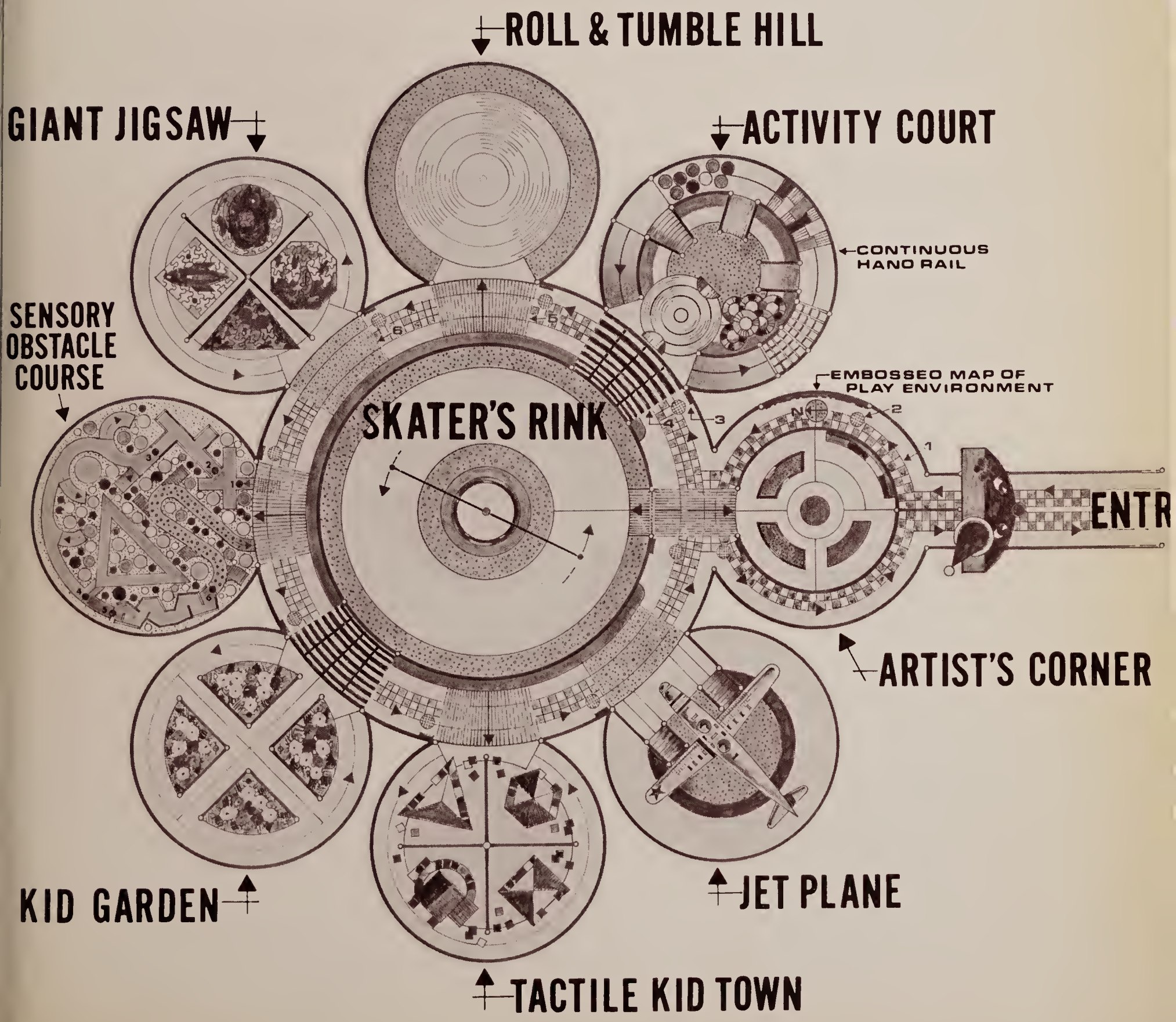
THE NEW
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Articles

385 Blindness and Yoga
Anthony David Heyes, Ph.D.

394 The Tactile Vision Substitution System: Applications in Education and Employment
Lawrence A. Scadden, Ph.D.

398 A New Method for the Group Testing of Blind Persons
Bert P. Cundick, Ph.D., John M. Crandell, Jr., Ph.D., Lee Hendrix, Ph.D.

404 My Experiences With the Laser Cane
Stephen H. Miyagawa

408 A Play Environment for Blind Children: Design and Evaluation
Robert H. Morris

415 Listening Skills: A Review of the Literature, Continued
Kathryn M. Daugherty

Departments

423 Hindsight—M. Robert Barnett

425 Comment—Walter Boninger

427 Current Literature

431 In Brief

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Blindness and Yoga

ABSTRACT: Evidence is presented to highlight two aspects of blindness; namely, physical inactivity leading to poor physical fitness and the state of anxiety which accompanies unguided blind mobility. Evidence is further presented to show that physical fitness may be achieved painlessly by means of Hatha Yoga and that anxiety may be reduced and the lasting effects of anxiety moderated by the practice of meditation. It is the author's suggestion that, given these two findings, it would be appropriate to encourage blind people in Yogic practices. An attempt is made, on behalf of the blind population, to extract from the vast storehouse of Yogic knowledge those aspects which are likely to be beneficial; an unashamed application of pragmatic eclecticism.

ANTHONY DAVID HEYES, Ph.D.

Dr. Heyes is with the Blind Mobility Research Unit, Department of Psychology, University of Nottingham, England.

Thesis

This is an essay rather than a scientific paper because, although I shall be presenting facts about blindness and facts about Yoga, the central thesis that the blind would benefit from Yogic practices remains to be tested. First, I shall deal with some of our present knowledge with respect to the physical and mental condition of the blind population; second, review what is currently known of the benefits which accrue from Yogic practices. Two types of information are available: that which is elicited by questioning subjects and that which is obtained by making physiological measurements. I have, however, purposely chosen to place emphasis on the latter; those measurements which may be quantitatively assessed.

Self-esteem and Independence

☐ To divide the blind population in two categories, namely those who are independently mobile and those who are not, may at first seem arbitrary. However, if we now question these two classes with respect to their self-esteem (Stephenson, 1953), or the degree to which they rate themselves with respect to their ideals, one finds very marked differences. Delafield (1974) measured changes in self-esteem of dog guide owners before and after training and found significant differences. For instance, immobile blind people recognize that many of their ideals are not approached. They consider themselves to be in a state of vegetation with respect to physical fitness. This is in sharp contrast to mobile blind people who, in general, consider that they get sufficient physical exercise. The two classes also differ with respect to general motivation, alertness, and ambition. Delafield's expectation is that such findings are not only present in subjects undergoing dog guide mobility training, but are generalizable descriptions of the blind population as a whole.

Independent Mobility and Stress

☐ There is a wealth of evidence which suggests that independent mobility confers upon an individual a change in life-style which is beneficial from the health point of view, both mentally and physically. However, there is a price to be paid, and that price is stress.

Selye (1956) described the syndrome which occurred when an animal or a

human being is subject to a physiological or psychological stress. Stress causes increased activity in the pituitary-adrenal axis and various autonomic nervous system changes. The overt symptoms of stress are therefore a consequence of increased levels of adrenaline and noradrenaline, for example, greater secretion of the gluco-corticoids from the adrenal cortex, an increase in heart rate and a change in the distribution of the blood supply in favour of the skeletal muscles at the expense of the viscera. The gluco-corticoids include hydrocortisone, corticosterone, cortisone; these speed up the rate of glucose metabolism thereby providing the body with a rapidly mobilized source of energy, but they also hinder the inflammatory processes by which the organism can combat physical damage. In addition, they reduce the secretions of the thymus and gonads thereby slowing growth and reproductive behavior. Selye considered that an animal can temporarily adapt to chronic stress, but persistance of the stressor will eventually cause the adaptive mechanism to collapse. Throughout his writings, Selye emphasizes the fact that it is this highly stereotyped bodily reaction, stereotyped both in order and form, which constitutes stress rather than the reactions peculiar or specific to the nature of the noxious agent. Although the events in the environment which induce stress and certain resultant responses may be quite varied, the stress response is invariant.

Symptoms of stress

Danger of stress

☐ Stress has been measured using two main classes of response. First, the overt behavioral responses will be examined. The variables chosen for measurement are usually those which the unstressed system normally maintains within a defined range. Consequently, the existence of stress is demonstrated when the variable under study fails to stay within this range. The measure usually takes the form of observable symptoms of emotionality or changes in the performance of some preselected task. For example, tremors, stuttering, projective test responses, self-ratings, and exaggerated speech characteristics have all been used as indices of stress. Performance shifts in threshold recognition times, perceptual retention, and vigilance tasks have also been found sensitive to psychological stressors. Performance changes have also been noted for various motor tasks such as reaction time tasks, tracking tasks, motor steadiness and dexterity tasks, as well as cognitive tasks such as problem solving, sentence formation, concept formation, learning, and so on. The vast literature resulting from such studies has been reviewed by Lazarus et al. (1952), Horvarth (1959), Martin (1961), Ruff (1963), and Cratty (1967).

Measurement of Stress

Overt behavioral responses

The second class of stress measures is that concerned with observable changes in one or more physiological variables. These variables are usually chosen either to reveal the functioning of homeostatic mechanisms or to show a change in the "state of arousal" of the organism. The following list contains some of the measures which have been used in recent years: a) the secretion of adreno-cortico-throphic hormone (ACTH); b) skin resistance changes; c) electromyography-muscle potentials; d) respiratory changes; e) changes in heart rate; f) secretion of lactate into the blood supply.

Changes in physiological variables

The very large number of indices, both psychological and physiological, available as measures of stress gives some indication of the huge influence that a state of stress has on our body.

☐ Many workers have observed that a state of stress occurs before, during, and

Stress and Unguided Blind Mobility

after blind mobility. Subjective reports of blind pedestrians traveling independently often refer to feelings of anxiety, apprehension, increased concentration, etc. In their survey, *Mobility and Reading Habits of the Blind*, Gray and Todd (1967) found that independent travel is a situation readily avoided by many blind people. Furthermore, a clear pattern emerged indicating that the number of blind people who traveled unguided significantly decreased with decreasing levels of residual vision. Their figures alone do not provide direct evidence of the stressful nature of the task. However, they may be taken as an indication in this direction; the more so since independent travel is a skill highly valued and respected by the majority of blind people. One is reminded of the point made by Haward (1960) in his definition of stress; namely that stress " . . . produces a situation which it is natural for the organism to avoid."

Measurement of heart rates

Direct evidence for stress during blind mobility is found in the measurement of the heart rates of blind pedestrians. The initial study in this field was done by Wycherley and Nicklin (1970) who devised a technique for telemetering the heart rate in a street or town situation. They recorded the heart rates of blind and sighted pedestrians as they walked over a town route on several consecutive occasions and found that the heart rate of blind subjects was significantly higher than that for the sighted subjects. Peak and Leonard (1971) have shown that if blind subjects were guided over a route by a sighted person, the heart rate of the blind subject was not significantly different from that of a matched sighted control subject. Consequently, the authors adopted an experimental design in which the subjects were used as their own controls and quoted results in terms of the percentage increase in heart rate for an unguided route with respect to the heart rate measured for that same route when accompanied by a sighted guide. This measure, the Stress Pulse Ratio (SPR), was found to depend primarily on route difficulty and, to a lesser extent, upon route familiarization and the mobility aid used.

Stress Pulse Ratio

During travel on complex routes with high pedestrian and traffic densities, the SPR was found to average 22 percent. This high figure was found to be independent of the mobility aid used and to be essentially constant during repeated traverses of the same route. During travel over a very simple route with no traffic or pedestrians and with no complex geographical features an SPR of 10 percent was found. This result was also independent of mobility aid and route familiarity.

SPR and route complexity

On routes of intermediate complexity involving some geographical features with light pedestrian and traffic densities, SPR values were found to decrease as the route became more familiar and, furthermore, the rate of decrease depended upon the mobility aid in use. The decrease was found to correlate with the rate at which geographical features of the route are discovered and built into a schema (Foulke, 1973) or a mental picture of the route. Only three mobility aids were included in the study; the short cane, the long cane, and the dog guide. The heart rate of long cane users showed a downward trend for the first two sessions only, while that of the short cane users and dog guide owners decreased more slowly. The final levels attained, however, were not significantly different for the three aids.

Mobility aids used in study

From the research point of view the results relating to the route of inter-

mediate complexity are highly significant for they suggest a possibility of using heart rate as a measure of schemata construction. From the point of view of demonstrating the presence of the stress syndrome in relation to blind mobility, however, the result from the simple route (i.e., an SPR of + 10 percent), is sufficient for us to conclude that all unguided travel for the blind is accompanied by stress.

Conclusion

If we now accept the evidence that, first, a very large number of blind people find that, through a lack of opportunity, they are physically unfit and, second, that the mobile blind, although fitter than their immobile counterparts, are inextricably involved in a stressful activity, it seems logical to ask what do researchers have to offer by a way of an antidote.

Physical unfitness and stress

Traditional Solutions

☐ With respect to physical fitness, the traditional solution would be in terms of exercises of the physical-jerks variety. The shortcomings of such a suggestion will become apparent when I discuss the suggested alternative. With respect to stress, a number of techniques and devices have been developed in recent years. It will be useful to notice that they may be divided into two categories; first, those techniques designed to reduce the stress encountered during the stressful activity and, second, those techniques which are designed to achieve states of relaxation which not only help the body recover from the effects of stress, but also help to reduce the overall response to the stress producing situation. Techniques which fall into the former category relate directly to the job in hand, namely, blind mobility. Here I would include the provision of training in the use of mobility aids and maps and, additionally, the behavior therapy techniques of desensitization and cognitive rehearsal. Those techniques designed to produce states of relaxation include the use of tranquilizing drugs, hypnosis, and the behavior therapy technique of differential relaxation.

Shortcomings of drugs

A number of these proposed solutions require some comment. It is widely recognized that certain drugs are able to produce states of relaxation and, therefore, represent a useful weapon in the armory of medical science. Unfortunately, states of relaxation are produced at the expense of a lowering in arousal. Thus, they are hardly appropriate as stress relievers for people who need to engage in an activity which involves concentration, alertness, and rapid reactions. The behavior therapy techniques offer interesting possibilities and have been used by Sharpe (1971) on dog guide trainees and on blindfolded, sighted long cane subjects during training experiments at Nottingham. Sharpe's thesis was, in the main, concerned with effects of behavior therapy techniques on subjects involved in stressful laboratory experiments. For example, subjects who were trying to balance were subjected to randomly delivered electric shocks. Nevertheless, the two short experiments which involved blind subjects were very successful, and one hopes that more work will be done along these lines in the future. Given, however, that the services of a behavior therapist are not readily available to the blind population, it is appropriate to look elsewhere for a solution.

Behavior therapy techniques

Yoga as Antidote

☐ It is my contention that some Yogic practices are particularly suitable for adoption by blind persons as a means of both physical and mental exercise and relaxation. Yoga is concerned with the physical, mental, and spiritual develop-

ment of an individual, emphasis being on personal experience rather than belief in dogma. Yogic literature describes a vast number of exercises and techniques designed to help an individual in his quest for self-realization. Two of these techniques seem particularly suitable for use by the blind population: the Yoga technique for achieving physical fitness (Hatha Yoga) and the Yoga technique for relaxation (Meditation).

Hatha Yoga and Meditation

☐ Hatha Yoga is a system of physical exercise which enables the practitioner to maintain a supple and healthy body. The exercises consist of achieving various bodily postures, and all that is needed is a little floor space and some loose fitting clothes. The essential feature is that all the movements are slow, thoughtful, and without strain. Postures which at first seem utterly impossible are achieved not by force, but by practice over a period of time. Calmness, quiet, and total mindfulness of the exercise in hand are necessary to achieve success. Nothing would be achieved if one were to do the exercises mechanically while thinking of something else. In an article which has appeared during the preparation of this paper, Lawrence (1973), a blind St. Dunstaner living in South Africa, writes, "Looking back now I can say that Hatha Yoga is the key that unlocked for me the gateway that led me back on the long road to good health. I soon found that Yoga is the ideal manner for a not very active blind person to have daily physical exercise, and to give the stimulation the body needs for the proper functioning of all its glands and inter-related complexities. The only thing that Yoga does not do is to give you stamina, but this aspect of health is not important to a blind person who does not need physical endurance in daily life anyway. The reason why I think Yoga is so good for the more mature blind person is because it is based on the principle of slow motion. There are no agitated movements; it can be done in a limited space, without any fuss and at any time of day."

Posture Exercises

Hatha Yoga and good health

☐ In addition to the physical posture exercises, Hatha Yoga also provides breathing exercises designed to develop a more efficient use of the lungs. A timing sequence of 1:4:2 for breathing in, holding, then breathing out is recommended, although it is not suggested that this sequence be maintained throughout daily life. I can strongly recommend one or two minutes spent on this exercise if ever one feels cold. The spread of warmth through the body which results is comforting and impressive.

Breathing Exercises

The breathing exercise is designed to open up and ventilate the lungs and nasal passages. The posture exercises—by repeated expansion and compression of the parts of the body around the joints and in the vicinity of the principal glands—stimulate the blood supply to these vital areas. A practice session of 20 to 40 minutes daily is found to be sufficient, and beginners are amazed to find how rapidly they attain improved bodily control. Yoga is progressive. Once you begin practicing, you can only get better. Naturally, some people progress more rapidly than others, but since benefit is being continually derived from the practice there is no sense of hurrying towards a goal.

Improved bodily control

☐ As an example, I shall describe one simple exercise (leg pulls). You will notice that I repeatedly emphasize that the exercise should be performed extremely slowly. Sit on the floor with both legs straight out in front. With back straight,

Example of Exercise

slowly and gracefully raise the arms until they are horizontal. Slowly raise the arms until they are above the head and then gradually lean backwards a few inches. Come slowly forward and keeping the arms straight but lowering them, take hold of whatever part of the legs you can reach without strain. Now, keeping the hands fixed, bend the elbows and gently pull the trunk downward as far as you can without strain, and hold. Release the legs and slowly straighten up allowing the hands to slide back. Relax and then repeat. The exercise should be performed very slowly taking at least one minute; it is then repeated three or four times. Quite obviously if an exercise like this is to last some four or five minutes one is not going to get through many exercises in a daily session of twenty minutes. For this reason, most teachers and books on the subject draw up a program of exercises which repeats about every four or five days.

Slow motion and repetition

☐ Turning our attention to exercises and techniques designed to relax the mind, we find ourselves faced with claim and counter-claim from groups of people who believe themselves to have the answers. Because the practice of meditation has become bound up with religion, there is now an unfortunate belief that a particular technique is necessary. Thus, the Buddhists concentrate on their breathing, the Turkish dervishes spin in a circle, the Yogis gaze at a mandala or endlessly repeat a mantra, while the Buddhists of Rinzai School of Zen contemplate a meaningless phrase (e. g., "What is the sound of one hand clapping?"). Yet the end product of these seemingly diverse and (to most of us brought up in Western culture) ludicrous practices is a measurable change in the state of consciousness of the participant. It is change which is so profound that it is now widely recognized that man exhibits four states of consciousness: wakefulness, dreaming sleep, deep sleep, and the meditation induced state of "restful alertness." There is evidence, however, that the attainment of this fourth state of consciousness does not involve a commitment to any esoteric doctrine, and furthermore that periods spent in this state are of benefit to the human body (Tart, 1969; Ornstein, 1972, 1973).

Various Relaxation Techniques

Fourth state of consciousness

☐ What then is the common theme linking the various meditation techniques? Following Ornstein (1972) we may say, "In terms of the psychology of consciousness, there are two general varieties of meditation: those exercises which involve restriction of awareness, focusing attention on an object of meditation, or on the repetition of a word, and those which involve a deliberate attempt to 'open up' awareness of the external environment."

Two Varieties of Meditation

The common feature of the first type ("concentrative meditation") is that no matter the form or technique, the essence of the meditation consists of an attempt to restrict awareness to a single unchanging source of stimulation for a definite period of time. In many traditions the successful achievement of this is termed "one-pointedness of mind." If the exercise involves vision, the meditator gazes continuously at the object of meditation. If the meditation is auditory, the sound, chant, or prayer is repeated over and over again, either aloud or silently. If the meditation consists of physical movement, the movement is repeated again and again. In all cases awareness is focused completely on the movement, the visual object, or the sound.

Concentrative meditation

The second form of meditation exercise is much more closely related to daily

Total absorption in present

activity. The practitioner is encourged to be totally aware of the present; a total absorption in the job in hand. Examples are the "just sitting" or Shikan-taza practice of the Soto Zen School, the "right-mindedness" of the Theravada Buddhist, the attention to action along the path of Karma Yoga, and the "self-remembering" taught by Gurdjieff in his interpretation of Sufism. All these practices are carried out at a state of mental development after the student is able to achieve "one-pointedness of mind." Theoretically, these are important techniques, since the associated physiological correlates are somewhat different than those associated with the former concentrative practices (see, for instance, habituation experiments discussed in Ornstein, 1972). Because they represent more advanced practices, they will not be discussed further.

Choice of concentrative meditation practices

Thus, the would-be meditator has a choice of numerous concentrative meditation practices, and if we look at the conclusions of those writers who have had acquaintance with several techniques (Ornstein, 1972; Watts, 1973), it is clear that there is little advantage in any and that the choice is entirely personal. For instance, if one is inclined towards a mantra meditation (a word or phrase repeated time and time again) it is of little consequence whether one used the Buddhist "Om mani padme hum," the Hindu "Om," the Eastern Orthodox Christian "Lord Jesus Christ, have mercy on me," or whether one invents one's own; the end product—the altered state of consciousness—is the same. A study of the way that the great religions then go on to use this altered state of consciousness as a means of achieving spiritual development is a fascinating exercise, but is beyond the scope of this article. We can stop here and enjoy this state as an end in itself. What, then, are the physiological changes which occur in the body during this fourth state of consciousness and of what benefit are they to the individual?

Physiological Measurements on Meditators

☐ Ornstein (1972) and Tart (1969) quote many references to physiological measurements made on meditating subjects, but possibly the most readily available source is the paper by Wallace and Benson (1972). In their study Wallace and Benson used some of the 90,000 men and women in the United States who have undergone a course in "Transcendental Meditation." This form of mantra meditation was developed by Marharishi Mahesh Yogi to be particularly suited to the Western way of life since the training does not require any specific beliefs or life-style. It involves two daily sessions of practice, each 15 to 20 minutes.

Description of experiment

The paper describes measurements made on a group of 36 subjects, each serving as his or her own control, who spent part of the session in meditation and part in a normal nonmeditative state. Devices for continuous measurement of blood pressure, heart rate, rectal temperature, skin resistance, and electroencephalographic events were attached to the subject and, during the period of measurement, samples were taken at ten-minute intervals for analysis of oxygen consumption, carbon dioxide elimination, and other parameters. During the whole experiment the subjects sat in chairs. After a 30–minute period of habituation, measurements were started and continued for three periods: 20 to 30 minutes of a quiet premeditative state, then 20 to 30 minutes of meditation, and finally, 20 to 30 minutes after the subject was asked to stop meditating.

Results

☐ The results showed that during meditation oxygen consumption and carbon

dioxide elimination decreased significantly, suggesting a reduction in the metabolic rate, a finding which was reflected in an involuntary reduction in the rate of respiration and in the volume of air breathed. Measurements of the lactate concentration in the blood (an indication of the anaerobic metabolism or metabolism in the absence of free oxygen) showed that during meditation the subjects' lactate levels declined precipitously at nearly four times faster than the rate of decrease in people normally resting in a supine position. After the subject ceased meditating, the lactate level continued to fall for a few minutes and then began to rise. However, at the end of this postmeditation period it was still considerably below the premeditation level. Since the level of blood lactate has been shown not only to correlate with anxiety, but also to produce anxiety if artifically introduced into the body, (Pitts, 1969), it is a reasonable hypothesis that the low level found in the subjects during and after meditation may be responsible in part for the meditators' thoroughly relaxed state.

Relaxed but wakeful condition

Other measurements on the meditators confirmed the picture of a highly relaxed, although wakeful, condition. During meditation their skin resistance to an electric current increased markedly, in some cases fourfold. Their heart rate slowed, on average, about three beats per minute and electroncephalographic recordings disclosed a marked increase in the occurrence of alpha waves.

Meditation vs. sleep and hypnosis

It is interesting to note that there is little resemblance between the above changes and those that accompany other relaxed states such as sleep and hypnosis. Whereas oxygen consumption drops rapidly within the first ten minutes of meditation, hypnosis produces no noticeable change in the metabolic index, and during sleep the consumption of oxygen decreases appreciably only after several hours. During sleep, the concentration of carbon dioxide in the blood increases significantly, indicating a reduction in respiration. There is also a slight increase in the acidity of the blood, but this is clearly due to the decrease in ventilation and not to a change of metabolism such as occurs during meditation. Skin resistance commonly increases during sleep, but the rate and amount of this increase are on a much smaller scale than they are in meditation. Electroencephalographic patterns of sleep are different from those obtained during meditation, while during hypnosis they take the form characteristic of the mental state that has been suggested to the subject. The same is true of changes in heart rate, blood pressure, skin resistance, and respiration; all of these visceral adjustments in a hypnotized person merely reflect the suggested state. To summarize, one can say that there is abundant evidence that the claim that "Transcendental Meditation allows the body a more profound state of rest than is attained in deep sleep, while the mind remains highly alert" has considerable justification.

Conclusion

☐ In conclusion, let me recall that in this essay I have, first, presented evidence to show a correlation between blindness and both physical debilitation and mental stress, and second, separate evidence to show that these two conditions may be treated by the techniques of Hatha Yoga and Meditation. Given these two independant correlations it seems to me very tempting indeed to suggest that blind people would benefit from the practices of Hatha Yoga and Meditation.

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search Council—at the Blind Mobility Research Unit, University of Nottingham. My acquaintance with Yogic practices derives from a wider interest in the history, philosophy, and psychology of religious mysticism, and in this connection I am indebted to Professor A. J. Allaway.

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The Tactile Vision Substitution System: Applications in Education and Employment

LAWRENCE A. SCADDEN, Ph.D.

Dr. Scadden is a research psychologist with the Smith-Kettlewell Institute and Department of Visual Sciences, University of the Pacific, San Francisco.

ABSTRACT: The Tactile Vision Substitution System converts the visual image from a narrow-angle television camera to a tactual image on a five-inch square, 100-point display of vibrators placed against the abdomen of the blind person. This arrangement allows for the free use of the hands at the same time that the machine is in use. The possible applications of the system in education include the teaching of certain spatial concepts, e.g., monocular cues, and as an attachment to a microscope to allow for the examination of slides. In employment, the system could be used in those jobs in electronics requiring the use of an oscilloscope (to which it can be attached) or in assembly work involving the microscope, e.g., microcircuitry.

For several years, a team of scientists at the Smith-Kettlewell Institute of Visual Sciences in San Francisco has been engaged in a program designed to develop electronic equipment capable of providing blind persons with a modicum of visual information in a manner which would free the user's hands for manipulation of his environment. In general, the equipment displays the output of a television camera as a two-dimensional pattern of vibration on the skin. Preliminary investigations conducted at the Smith-Kettlewell Institute were conducted with a matrix of 400 vibrators placed against the subject's back (White, Saunders, Scadden, Bach-y-Rita, & Collins, 1970). For most tasks performed by blind persons which require a tactile display, the fingertip is the most suitable surface based on psychophysical measurements obtained from various body loci. But for tasks requiring freedom of the performer's hands, the abdomen appears to provide the best surface for the recognition of tactile patterns (Scadden, 1974), even though this fact means that the necessary vibratory display matrix requires increased power dissipation and greater separation between stimulator points. This paper attempts to report the current status of the research with the Smith-Kettlewell equipment, called the Tactile Vision Substitution System (TVSS), and to describe practical applications for it that have been identified to date.

Preliminary studies

The Current Model

☐ The TVSS, as is the case with any television system, is capable of presenting spatial information. Blind subjects are able to learn to identify environmental objects and to describe their relative position and distance from one another. With the TVSS model currently being used, the subject sits at a table with his abdomen placed against a five-inch square matrix containing 100 vibrators. A miniature phototransistor television camera, mounted on the temple-bar of spectacle frames, scans the environment as the user turns his head. The image picked up by the camera is translated into a two-dimensional pattern on the skin. Be-

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cause there is a small number of vibrators to display the images, only a small amount of information can be presented simultaneously. Therefore, a narrow-angle camera lens of approximately five degrees is used. The result is that the information received is more sequential than pictorial although entire small objects or sections of large objects will be displayed on the matrix at one time. Nevertheless, blind subjects as young as seven years of age have successfully learned the techniques of camera manipulation and visual analysis necessary for properly describing environmental arrays of objects.

Collaborative research

Collaborative research conducted with the TVSS at Overbrook School for the Blind in Philadelphia, under the direction of Mary Anne Sullivan, Ph. D., demonstrated that information learned with the system regarding simple spatial concepts such as directionality and relative position led to improved performance on an orientation and mobility assessment questionnaire. However, in the same study a control group who received similar instruction with raised-line models and other displays to be felt with the hands showed similar improvement on the questionnaire. Therefore, it cannot be concluded from these results that newly acquired information regarding techniques and concepts used in vision for spatial analysis affected performance on the subsequent orientation and mobility test. Based on investigations to date, it may be concluded that only a small percentage of congenitally blind people have an underlying interest or curiosity regarding such visual phenomena as those used for making visual judgments of distance. This lack of interest is undoubtedly due primarily to the fact that such information is not useful for the personal mobility of blind persons. If such information could be used to improve personal mobility, interest would obviously rise.

Educational Applications

☐ It should be noted at this juncture that, in the situations where strong interest and curiosity regarding visual phenomena exist, the TVSS has continually provided the only known means for demonstrating these phenomena and teaching these concepts experientially to congenitally blind persons. This fact cannot be overlooked when discussing the educational value of the TVSS, despite the limited population that might be involved. On several occasions, intensive training of congenitally blind people who had a professional interest in visual concepts was conducted. Experimental psychology, physics, and philosophy are just three disciplines which frequently involve discussions of visual space. With the TVSS, students and professionals from these fields have been taught to use visual analysis techniques to describe laboratory environments. For instance, concepts concerning monocular cues used for judging depth can be demonstrated and learned using the TVSS (Scadden, 1971). (Monocular cues are those display features contained in an image seen by one eye or viewed by a camera which provide the necessary information for indicating the distance of an object from the viewer. Such things as linear perspective, apparent size change as a function of distance, partial occlusion by nearer objects, clarity of image, and the apparent elevation in the visual field are all considered to be monocular cues of depth which can be displayed by and used with the TVSS.) Other visual phenomena, such as those produced by static and rotating mirrors, have also produced successful and fascinating demonstrations for interested congeni-

Monocular cues

tally blind users of the TVSS. The staff of the Smith-Kettlewell Institute hopes to locate other congenitally blind people who have a sincere interest in experientially learning about visual phenomena with the TVSS.

Viewing microscope slides

An additional educational application for the TVSS that has been demonstrated utilizes equipment similar to that described earlier but with the camera mounted in the eyepiece of a binocular microscope. The second eyepiece can be used by a sighted instructor to assist in the learning process. Biological slides have been placed on a freely gliding microscope stage permitting the user to scan the slide across the narrow visual angle of the camera and eliminating the problems inherent with static tactile displays. Many blind people have tried the TVSS in this manner and have expressed satisfaction in being able to appreciate microscopic displays such as the circulatory system of a fly's wing, the structure of salt crystals and bone tissues, and the complex forms of seeds and plant materials.

Employment Applications

☐ For several years, the TVSS project staff has recognized that the system could permit blind users to interpret simple displays, such as meters and oscilloscopes (Scadden, 1969), that might be relevant for the performance of tasks in some employment situations. Extensive investigation was needed, however, to determine the extent of this capability and to identify specific job categories that require an amount of visual information that is within the presentation capacity of the present system. The predominance of TVSS project staff personnel with an interest in electronics and biomedical instrumentation made it somewhat inevitable that initial considerations were given to the electronics field. This interest was also heightened by the fact that the staff contained a blind electronics technician who was able to point out tasks which he felt needed additional information input.

Oscilloscope

The initial step in this evaluation program was to attach a miniature camera to a specially constructed adaptor in front of an oscilloscope screen (probably the single most important diagnostic tool used by electronics engineers and technicians). The output of this camera was displayed on a 100–point matrix attached to the technician's workbench. He was asked to attempt to determine the usefulness of the system in the analysis of electronic circuitry with the aid of the oscilloscope. His experiences were encouraging, and he believes that he now has the capability of performing many circuit analysis and debugging tasks hitherto difficult or impossible for him with existing aids and techniques. In the past, blind technicians have relied on specially adapted voltmeters with either tactile or auditory readouts to measure the polarity and amplitude of current in any given circuit. With the TVSS-oscilloscope attachment, the technician was able to make rapid successions of qualitative measurements of direct current voltages from various areas of a circuitboard by moving the oscilloscope probe across the board. The movement of the indicating horizontal line upwards or downwards on the oscilloscope, and thus on the abdomen, provided him with information regarding current polarity, and the amount of movement indicated the relative amplitude of the signal. Exact quantitative measurements of amplitudes would require additional calibration and probable counting of the exact number of activated vibrators or reliance on other available measurement

DC voltages

tools. However, this technique permitted rapid circuit checks by eliminating the necessity of resetting voltmeter controls each time the probe was moved.

AC voltages

The measurement of alternating current was accomplished with the oscilloscope attachment through innovative additions of reference signals from a variable power supply for the matching of the desired current signal and then subsequent measures of the reference signals with an audible voltmeter.

Digital circuitry could be analyzed with the oscilloscope attachment by presenting information regarding the rapidity and length of pulse trains produced by the particular circuit. Such information was readily discernible by the blind technician familiar with such circuits.

In these ways, the TVSS, used in conjunction with an oscilloscope and other available sensory aid devices, increased the occupational capacity for the electronics technician on the TVSS staff.

Microcircuitry assembly

Another employment area which appears to be achievable with the TVSS is that of microcircuitry assembly. Throughout the modern electronics industry, there is a predominant reliance upon microcircuitry. Assembly lines in such industries commonly depend upon sighted workers who place miniature electronic components onto microscopic, printed circuit-boards, visually guiding their movements through microscopes. Preliminary laboratory investigations suggest that such an employment task might be possible with the aid of the TVSS. Laboratory simulations of industrial circuitboard loading tasks produced encouraging results. Blind subjects were able to locate predetermined locations on printed circuit-boards using the TVSS-microscope attachment, grasp tiny-components (such as capacitors) with tweezers, place them on the proper point, and then solder them into place. Time and accuracy of performance and technique improved with practice. The current goal is to establish a field-testing arrangement within an actual industrial setting so that proper evaluation can be made to determine whether competitive performance can be achieved by a blind assembler.

Continuing Efforts

☐ Additional employment applications for the TVSS are under consideration. Many job categories in industry and in medicine require an employee to be able to utilize either a microscope or oscilloscope while keeping his hands free to manipulate other equipment or displays. With cooperation from private and public industries and agencies, and with continued successful research results, it is hoped that the TVSS will become a useful tool for many blind students and workers by providing supplementary information from the visual world.

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A New Method for the Group Testing of Blind Persons

ABSTRACT: Because most testing of blind persons is now done on a one-to-one basis, the problems involved in the more efficient group testing of the blind were investigated. Two main problems were isolated—presentation of the test items and recording of the answers by the subjects. A solution, involving verbal presentation via prerecorded cassette tapes and a specially designed tactual answer board, was devised and tested experimentally. It was found that testing in this manner yields results that are not significantly different from those obtained via visual test-taking.

BERT P. CUNDICK, Ph.D.
JOHN M. CRANDELL, JR., Ph.D.
LEE HENDRIX, Ph.D.

Dr. Cundick, professor of psychology, and Drs. Crandell and Hendrix, associate professors in education, are at Brigham Young University, Provo, Utah.

The psychological testing movement is nearly three-quarters of a century old. Binet's development of an instrument for the measurement of intelligence has spawned a plethora of measuring instruments now available on the market and in research. Almost from the very beginning of the movement attempts have been made to modify existing tests for use with blind persons, but with only limited success, because of the difficulties involved in presenting the tests through either an auditory or tactual method rather than the usual paper-pencil approach. This paper presents a method for administering group tests to blind subjects which may make it possible to fill many of these testing gaps.

Uses of tests

Properly used tests should at a minimum be predictive of some future behavior and convey information that will be useful not only to those who give them but also to those who take them. They have been most fruitfully used when applied to choice-making points in one's life. Agencies and institutions use them when there is a surplus of people for available positions or when there are multiple occupational pursuits available to a variety of people. The one who is tested might find data helpful when a number of choices are available to him and he has little way of knowing which of them would lead him to the most satisfactory experiences. Hence, properly used, testing should aid effective use of both financial and human resources.

Present Limitations

☐ Blind persons are often tested when they enter a program designed to help them in gaining some educational training or a program of vocational rehabilitation. However, the testing which is done appears to be limited by a number of factors, some of which need not be operative.

It is obvious that the major limiting factor related to the choice of a test is the blind person's inability to read the printed test. This forces the administering of tests through tactual or auditory channels. The next problem is related to recording the answers of the blind person taking the test. Paper-pencil tests utilize answer sheets which again require the use of sight. The blind person could utilize a method employing his tactual ability in combination

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with braille, but this has the disadvantage of being incomprehensible to the non-braille reader, who often both scores and interprets the test.

Tests in braille

A related difficulty with methods utilizing braille is the inability of some blind persons, particularly the newly blind, to use it. This means that historically blind persons have often been tested by someone presenting the test items auditorily and then recording their verbal answers. Because of the one-to-one ratio of tester to testee, this method is inefficient and correspondingly costly. An obvious solution to this problem would be to give an auditory test and allow the blind person to record his answers himself.

Unadapted tests

Another factor limiting the choice of tests given to blind persons is the experience and background of the tester. If the testing is done on contract by a typical clinical psychologist, instruments especially prepared for blind persons are almost never given. The authors noted in a survey of records for the blind in a large rehabilitation center that in no instance was a test administered which had been specifically devised for use with the blind. This is understandable because most clinicians are not acquainted with or trained in the use of such instruments, nor do they test enough blind people to warrant familiarizing themselves with such instruments. It was also noted in the survey that group tests were seldom given. This reflects a bias toward individual testing in the training of clinicians, as well as the requirement that the test must be read to the blind and their answers recorded. Apparently, to give a group test in this way does not appear to be attractive to the average clinician, either motivationally or economically.

Test reliability

Still another problem encountered in using tests for blind persons is that of reliability when the testing procedures are modified. When tests have been devised for use with sighted subjects using paper and pencil, and when these tests are administered through a tactual or auditory procedure, the results will be modified to an unknown degree. Even if a fairly normal distribution of scores is obtained from blind subjects, it is impossible to know whether the results would have been different if these same subjects had taken the test in the manner prescribed for the standardized population. In order to determine the differences which may result, it would be necessary to administer tests to sighted subjects using several methods of presentation to assess the comparability of these procedures. No studies were found in the literature which dealt directly with this problem.

Adapted Tests

☐ Ideally, the choice of the testing instrument should be made with consideration given to the needs of both the individual and the agency serving him. Surveys of tests and assessment procedures widely used with the blind have been reported by Bauman and Hayes (1951), Claassen (1954), Bauman (1968), and Goldman (1970). There are several difficulties that must be dealt with when selecting a test. One is the difficulty of finding adequate group norms based on the performance of the blind. Those who have devised tests for blind persons have had difficulty in obtaining large and representative samples. Hayes (1942) has commented that his own Hayes-Binet did not adequately represent the extremes of intelligence and likely did not give accurate estimates of the intelligence of those scoring at the extremes. Ohwaki et al. (1960) and

Juurmaa (1967) have devised tests for use with blind persons which are interesting and potentially useful but are not adequately standardized and in some instances suffer from difficulties in construction. Group norms of many of the widely used paper-pencil tests are large but in many instances do not include special segments of the population, including the blind.

Norms for the blind

If one uses instruments devised strictly for blind persons, the range of tests is obviously restricted. However, if one elects to use with the blind tests that have been developed and normed for sighted populations, separate norms for the blind could be obtained through appropriate record-keeping. Also, validity studies could be run. It can be argued that the characteristics of blind persons must be determined through the use of the same tests that are used with the sighted because the blind function and compete in a sighted wrld. Thus, the "blind" can be regarded as people who are incidentally blind rather than as the "blind" who are incidentally people.

A Solution

☐ The authors pondered the foregoing difficulties while performing some testing research on blind persons. It appeared that the optimum way to do large-scale testing of the blind was to give auditory presentations of the material in such a way that both the testing and recording of answers could be done by the blind testee. Originally it was questioned whether an auditory presentation of material might be easier or more difficult than a visual presentation of testing material. Some have assumed that man is a seeing animal who is most effective when responding to visual stimulation. However, McGeoch and Irion (1952) have indicated that auditory presentations of material are more effective than visual presentations with young children. Stillman (1960) has indicated that an analysis of phylic differences in cortical differentiation suggests that higher mammals are most characterized by the relatively greater development of auditory portions of the brain, suggesting that man is most basically receptive to auditory stimulation. Vygotsky (1962) and others have held that symbolic cognitive processes rely upon verbalizations that are both overt and covert. However, despite theorizing in one direction or the other, it appeared that the problem was essentially an empirical one and would need to be tested.

Recording answers

The authors also concluded that a method of recording answers would need to be devised. Three methods were considered. One devised by Davidson (1973) required knowledge of braille; however, many of those who would be tested did not have braille proficiency. Another used by the Hadley School for the Blind also utilized braille but had too few response alternatives for most standardized tests. A third method utilizing a board obtained from Great Britain showed promise, but it had a restricted alternative selection and produced orientation problems for subjects.

Answer Board

☐ Finally, 36 sighted university students participated in a trial experiment utilizing a test recorded on audio cassettes and an answer board which had been devised by the authors following repeated preliminary trial testing with different subjects. The experiment involved two phases, the first to determine the practicality of the answer board. The board itself consists of three sheets of masonite and is similar in appearance to a typical answer sheet. The top two sheets are separated from the base sheet by one-inch dividers and drilled with holes for five possible responses to each of 60 questions.

Use of board

In place of a number, a hole containing a sharp peg was placed to the left side of each question. A piece of plastic tape was placed below each group of five questions in each column as well as between each column. Raised eyelets were placed in the holes for alternatives one, three, and five; the holes for alternatives two and four were without eyelets. Smooth eyelets were used for the odd numbered questions and rough eyelets were used for the even numbered questions. A sheet of paper for recording the responses was placed between the two punched boards. When recording an answer to an item, the subject felt the peg column, picked up the peg, located the correct alternative by checking the raised surfaces among the alternatives, and then inserted the peg into a selected response hole. If the subject became confused on the item number, he could find his place by orienting himself through the use of the raised tape.

Phase One

☐ The 36 sighted students in the experimental group were divided into three groups. Initially, the first and third groups were blindfolded with ski-goggles that had been masked so as to permit no vision. They were read 60 questions and asked to punch a specified response on their boards for each item. The ski-goggles were then removed. New answer sheets were then placed in the boards and the pegs placed in the original peg holes. They were then read the same set of questions and again asked to punch the same specified responses on their boards. The second group was given the same treatment, but the order of the experiences was reversed. The mean of the correct responses while blindfolded was compared with the mean while sighted. The mean while sighted was 59.8 while the mean while blindfolded was 58.4. This yielded an F ratio that was statistically significant ($< .03$ level); however, one might conclude that a difference of 1.4 points between the two groups was an inconsequential difference even if statistically significant. The order of presentation made no significant difference. It was concluded that a reasonable degree of accuracy of recording responses could be obtained while using the board.

Phase two

Are tests presented auditorally comparable to tests taken visually? A set of 60 questions was constructed to answer this question. The first 25 items were intelligence questions, some of which tested vocabulary, others reasoning, and others arithmetic reasoning. The next five items asked for biographical data, and the following five asked for relative acceptance of a group of statements regarding child-rearing practices. Five others consisted of items used on semantic differential self descriptions. For each of the preceding 40 items, five alternatives were provided for each item. The alternatives were generally not long; although some were up to 12 words in length, most consisted of one or two words.

The next ten items were similar to those on interest tests. The subjects were asked to indicate their relative liking for an occupation or task by assigning a one, two, or three to each item. The last ten were similar to the most difficult sorting items that appear on the Strong Vocational Interest Blank. Ten activities were listed and the subjects were instructed to put three "ones" in the first hole for the three things they would most like to do, three "threes" for the three activities they would least like to do, and place the remaining four pegs in the second hole. These 15 items were based upon continua.

Auditory presentation

The test was recorded upon cassettes for auditory presentation. Each item

was read three times, pausing briefly between each item. For those who required less than three presentations of the item a low frequency "beep" was recorded in the blank space between items so those turning the recorder on fast forward could hear the beep just prior to the appearance of the next item.

Test and retest

Individual cassette recorders and earphones were provided for each subject. Initially, the first group of subjects was blindfolded and given the test; subsequently they were given a written copy of the test and asked to take it again. The second group was first given the test by cassette but was not blindfolded. They subsequently were given a written copy of the test and were asked to retake it. The third group was first given a written copy of the test and subsequently blindfolded and were given the test again by cassette. One other control group took the written test twice utilizing a normal answer sheet.

Results

☐ There were no significant differences between any of the group means for the IQ portion of the test. However, the rating scale material was more difficult to analyze and interpret. Consistency of responding was calculated for each of the experimental groups for each set of test items. Overall, the groups chose the same alternative for both administrations 83 percent of the time. This would correspond to a test-retest reliability of over 0.9. The only group who scored differently from the other groups was the first group who took the blindfolded-audio test followed by a sighted test. They were slightly more accurate than the two other experimental groups and the one control group. It therefore appears that taking a test auditorially does not yield significantly different results from one taken visually. The results of the foregoing experiment, utilizing as it does blindfolded sighted subjects with little previous experience with auditory and haptic tests, can be extrapolated to the blind population without penalty.

Machine scoring

An auditory recording of standardized tests would require special permission unless some of the publishers made and sold recordings as an alternative to test booklets. If the standardized test required machine scoring, answers from the perforated answer sheets would still need to be recorded on standardized answer sheets. However, the time expenditure for this kind of recording would be minimal when the test itself does not need to be read and the tester need not wait for an answer to be chosen.

A more complete description of the answer board will be given by the authors to any who request it. If it appears that there is sufficient interest in the device, it will be manufactured and made available through an outlet that specializes in materials for testing or materials for the blind.

Conclusion

☐ Many group tests which formerly could be administered to blind subjects on an individual basis only, can now be administered on a group basis with a significant saving in time, cost, and effort. It remains to be seen whether younger blind subjects can utilize these materials effectively, but this can be determined empirically. The authors would appreciate experimentation by others.

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Next Month in the New Outlook

The December 1974 issue of the *New Outlook for the Blind* will feature a detailed report of a survey-study of the manpower needs in the field of orientation and mobility by Richard Welsh and Bruce B. Blasch. The application of individualized behavior modification programs for multiply handicapped children in a residential school is explored by Patricia A. Gallagher and Ruth E. Heim; the article includes details from three different examples of this technique in actual use. Mary Morrison, in an article entitled "The Other 128 Hours a Week," recounts her experiences in teaching personal management skills to blind young adults. This issue will also include the concluding part of Kathryn M. Daugherty's exhaustive review of the literature on listening skills; descriptions of tests related to listening skills and a list of problems for future research are appended to her annotated bibliography.

My Experience With the Laser Cane

STEPHEN H. MIYAGAWA

Mr. Miyagawa, a blinded veteran of the Korean War, holds a degree in social work from Roosevelt University and is currently employed as a darkroom technician at Edgewater Hospital, Chicago.

ABSTRACT: The Veterans Administration conducted a five-week training program and subsequent evaluation of the C-4 Laser Cane. This is a critical and sometimes amusing account of one participant's experiences in the project. Training in orientation and mobility skills is stressed as a prerequisite to travel with a mobility device. The Laser Cane used with long-cane technique provides information in advance of and on contact with obstacles.

In June of 1971, I received a call from John Malamazian, chief of the Central Rehabilitation Section for Visually Impaired and Blinded Veterans, Hines Hospital, Illinois. He extended an invitation to participate in a five-week Laser Cane training and evaluation project. Out of a sense of obligation to the Blind Center and its personnel for having given me a new outlook towards life as a newly blinded person two decades ago, I accepted.

Orientation and Mobility Skills

☐ An orientation and mobility (O/M) specialist at Hines shortly thereafter began my evaluative and brushup training in O/M skills. I had thought myself to be a good traveler, as seasoned as one could ever be. Why not? I'd had much practice and thought that this and the passage of time made the best of travelers. I was pleased with myself. A day or two after the training began, I began to change my mind.

The O/M specialists very quietly and casually called attention to my errors. If I was not stepping off the curb improperly, I was doing something else wrong. Twenty years had gone by since my initial training, and the brief ego-deflating training of my skills in O/M was most essential as a prerequisite to the Laser Cane training.

Participants

In the five-week training project there were four participants at Hines and four at Palo Alto, California. I was the only Korean veteran; the others were veterans of Viet Nam. We were all being trained from an identical protocol developed by Hines and Palo Alto O/M research specialists, and VA and National Academy of Sciences representatives.

Introduction

Each of us was introduced to the Laser Cane, its history, nomenclature, functions, and vital statistics. This was the "miracle stick" which was going to help us in our walking; a new dimension in the blind man's mobility. The electronic device provided an early detection of obstacles and downdrops similar to the way radar is used in piloting ships and planes—giving advance warning in time to prepare for evasive action.

Prototype C-4

☐ I worked with the prototype C–4 Laser Cane which looked like an oversized long cane. All of the electronic mechanism was housed in the upper shaft. It had a built-in rechargeable battery, and weighed approximately 1–1/3 pounds. The Laser Cane provided a dimension beyond the reach of the long cane. It was designed to detect obstacles hanging overhead or protruding from the

sides at head level within the path of travel; to detect objects in front and between the left and right arc; and to detect such downdrops as deep curbs, stairways, and from platforms.

Scanning

By scanning with the device the width and straightness of a path between obstacles could be approximated. As obstacles were detected, the decision to avoid or make contact with them could be made. In making such a choice one gathered important information about the immediate environment. How one determined the course of his travels depended upon his reception and analysis of the laser signals. Proficient use of the cane depended upon ability to utilize the signals swiftly and accurately, and to incorporate them with proper long-cane technique.

Audible and tactile signals

Each of the three detector mechanisms had a distinct audible pitch to differentiate probable types of obstacles and down-drops. In addition the forward-looking channel also had a tactile stimulator which contacted the index finger when carried in the usual long-cane fasion.

Signal recognition

I found the audible and tactile signals to be unintelligible at first. When the tactile stimulator started vibrating under my index finger tip while at the same time the audible signal sounded, it scared the hell out of me! The audible signal was loud enough to be a burglar alarm. As soon as I learned to recognize the signal for each channel my response to the Laser Cane came almost as readily as when my long cane came in contact with an obstacle.

The Training Program

☐ The training program included drills in the detection and avoidance of obstacles, indoor and outdoor travel, and experience in residential and business environmental situations. The drills in detection and avoidance of obstacles such as ladders, bicycles, coat racks, trash cans, and parking meters sharpened my reflexes. Coat racks and parking meters in particular required careful scanning. I found that light colored objects could be detected at a greater distance. We travel in the Loop, the heart of Chicago. The training was climaxed by evaluation day when we were observed for skill and dexterity in the use of the Laser Cane by several judges, who themselves were O/M specialists.

During the training period we met Malvern Benjamin, the inventor of the cane, and at the close of the training we met in conference with Dr. Eugene Murphy, chief, Research and Development Division, Prosthetic and Sensory Aid Service, Veterans Administration, New York. Our counterparts in Palo Alto had similar meetings, and the results from both were relatively the same.

Follow-up Sessions

☐ The O/M specialists paid me two follow-up visits, one in November of 1971 to observe how well I was using my device. The observations began at my place of business, and progressed to my home. I asked for orientation in a train station through which I had been traveling for many years. There were so many concessions and telephones which I could have used had I known they existed. Now I travel the station with a greater sense of freedom and independence.

Residential environment

The second visit entailed two observation sessions on June 7 and 8, 1972, in my residential environment. I had to walk L-shaped travel patterns, each with the same number of streets to cross. I had no difficulty with those on which I knew my starting point and destination. On one occasion I was dropped off without any notice; the starting point not identified. My only instructions were

to go forward so many blocks and left so many blocks. Destination was an entrance in the corner of a building. It was like solving a puzzle. Although in reality I had walked that route a thousand times, I could not guess where I was. My imagination ran wild. I knew that I was being watched, and that my follies were being recorded on video tape. I heard a pedestrian comment that we were being televised. Someone even ran into my path to be in focus. Another threatened to sue if his picture appeared on television. When I had completed the run and was informed of the location, I was chagrined to learn that I was only a few blocks from my home, and although I had reached the destination, my self-confidence was shaken.

Daily travel

I travel cross-town six days a week to and from work, 16 miles each way, making three transfers on public transportation. In my daily travel I walk on "elevated" and commuter train platforms four or five times. As time passed, I began to appreciate the Laser Cane more and more.

The Upward Channel

☐ The upward channel which detected hanging objects and informed me of the height and closeness of objects picked up by the forward channel was a special boon to me. Before the Laser Cane had come into my life, I had run into a three-inch pipe sticking out of a utility truck, the bed of a huge truck parked in my way, a sign post, and a protruding box on a light post; all of which necessitated painful and expensive trips to the dentist.

The forward channel

I used the forward channel to detect objects in front of me. The choice was mine to avoid or to make contact. I frequently used it to search for openings, landmarks, or to ascertain approximate dimensions of openings and obstacles. Provided it was not heavily congested, speed in walking among pedestrians could be maintained while assuming the long-cane technique. Only when detection was kept short so as not to detect pedestrians or obstacles which did not present immediate hazards, could the cane reach be shortened.

Detector used alone

In the event that the lower shaft of the cane broke off, the electronic device could still be used to detect and guide. Once I hurriedly entered a revolving door, and the speed at which it was turning broke the lower shaft completely off. The sudden absence of physical contact with the sidewalk, particularly in an unfamilar environment, slowed me immediately and I gave maximum attention to the signals of the detector. I had the feeling that the ground before me had literally vanished. I realized how valuable the long cane with its ground contact had been to me.

The downward channel

The downward channel detected downdrops and anything dark such as black tile, baseboard, and metal door frames. I used some of these as landmarks. Since I walk "elevated" and commuter train platforms frequently, the downdrop detector enabled me to travel them with less fear. Twelve years ago, this particular channel might have prevented my falling into a deep utility trench.

Simultaneous Signals

☐ The tactile stimulator was as important to me as the audible signal. There were advantages in using them simultaneously; when I was preoccupied listening to environmental sounds, the tactile signal alerted me to immediate danger; when environmental sounds such as traffic, trains, and air hammers drowned out the audible signal, the tactile stimulator made itself felt. The audible signal, however, will attract the public's attention and also attendant problems. The

tactile stimulator silently kept me informed of pedestrians and obstacles, and I could maintain my pace, veering around them.

Signal interpretation

I found that discipline in the use of the Laser Cane was very important. Since the electronic detection is noted in terms of audible and tactile signals close attention is required. The upward, forward, and downward signals must be discerned individually and collectively in order to identify the nature and location of obstacles. The signals do not interpret, they only provide the raw information. The operator of the Laser Cane must interpret the signals. Again, practice and experience are the answer.

Self-consciousness

It was essential that one learn to ignore the fact that he was being watched. One feels very conspicuous because of the audible signals, and also feels pressured to respond to the signals promptly and correctly. Some people are self-conscious enough about being blind without being called upon to give flawless public performances. To use the instrument most efficiently, one also had to be patient. Forcing only led to error or collision.

Public Reaction

☐ People's reaction to the Laser Cane was sometimes amusing and at other times annoying. You knew from their remarks that they were quick to catch on to its purpose. A child was overheard calling it an "electric stick." There were also those children who liked to trigger the sound system by running into my path. But they soon disappeared when the cane stopped making exciting noises —I simply turned off the audible signal. One evening I was confronted by a drunk on a South Chicago train. He was able to see the three lenses staring at him from a strange looking stick, and accused me of sitting across the aisle to take pictures of him.

Malfunctions

The C–4 Laser Cane was a prototype being tested by us in an effort to discover its capabilities and limitations. As a sensitive electronic device, it was vulnerable to malfunction, and I had to check each channel before and during use. After having used several different canes, I found that malfunctions were equally frequent but differed in nature. One cane perhaps had downward detection problems while another had upward detection problems. I learned that when the cane was subjected to heavy rain it ceased to function. In light but constant rain or wet snow flurries the signals lost power as though the battery needed charging. The downward channel was sensitive to wet pavement and at such times the signals were of spurious origin.

The C-5 Model

☐ Because I am of small stature, the C-4 model was too cumbersome. Mr. Benjamin, the inventor, must have had me in mind when he designed the much-improved C-5 model; it is lighter in weight, smaller in diameter, and the tactile stimulator is located closer to the crook. I was issued a C-5 Laser Cane by Hines seven months ago and it has been shipped back to Bionic Instruments only once. The apparent malfunction, however, did not involve the electronics of the device but was a result of faulty maintenance (failure to keep the beam-emitting windows and receiving optics clean). Whereas the C-4 was in repair frequently, the C-5 has yet to fail. It is continuing to prove its worth electronically. The reliability of the cane's performance has increased my confidence in the C-5; I feel more secure with it than I did with the prototype, C-4, or with the long cane.

A Play Environment for Blind Children: Design and Evaluation

ROBERT H. MORRIS

Mr. Morris, an associate landscape architect with the California State Department of Transportation, Sacramento, designed the play environment described in this article as part of his graduate studies in park and recreation administration at California State University, Sacramento.

ABSTRACT: A play environment, comprised of eight circular play courts arranged around a ninth court, was designed on the basis of the idea that play could be used to help blind children learn orientation skills that are essential for their development as individuals. Sensory stimulation, especially hearing and touch, and spatial perception are integral parts of the environment, as is the requirement that the child actively participate in order to enjoy the activities. Tactile maps and recorded instructions are also utilized. The design was presented to a panel of experts—orientation and mobility instructors, teachers, a psychologist, a recreation therapist, and a research designer—for evaluation. A majority judged the concept, the overall design, and the design of the individual elements to be "effective" or "very effective" in promoting the development of orientation skills in blind children.

Purpose

The basic purpose of this study was to investigate the potential effectiveness of a specially designed play environment in helping pre-teenage blind children to improve their orientation and mobility skills through play activities. This subject of investigation was chosen because of the need for developing new and more effective ways of helping blind children to learn those basic orientation and mobility skills which are required if they are to participate to the fullest possible extent in the main stream of life.

Touch, hearing, spatial perception

To do this, a play environment was carefully and specifically planned to encourage blind children to participate in play by learning to develop and utilize as fully as possible their senses of touch, hearing, and spatial perception. The design is based on the ideas, concepts, experience, and research findings of such experts in the field of training and educating blind children as Charles Buell, Bryant Cratty, Giles Gobetz, Francis Lord, and Berthold Lowenfeld. In addition, the recent work of Billie L. Bentzen, Ann Kidwell and Peter Greer, and Edward Berlá on the use of tactile maps in improving the orientation and mobility skills of blind persons is also reflected in the design.

Participation Emphasized

☐ The proposed play environment, pictured on the following pages, is laid out in the form of eight individual circular play courts grouped around a larger circular play area in the center. A continuous handrail encircles the entire play environment and each of the individual play courts, and provides the blind child with whatever guidance is needed in circulating throughout the play activities available to him. An important feature of the design is that all of the play items are fixed in place, requiring the user to provide movement. This means that in order to participate successfully in the various play activities, it is necessary for the blind child to utilize all of his remaining senses in learning to orient properly and move about effectively. To assist him in learning these required skills of orientation and mobility, the play environment includes a wide variety of sensory cues to alert and guide the blind youngster in play especially through the use of his senses of touch, hearing, and spatial perception.

Some of these sensory cues employ tactile maps to indicate both the overall layout of the entire play environment and the individual location of each of the separate play courts. By using these tactile maps in conjunction with recorded instructions located at each map, the blind child could learn to read each map through his fingers and ears, and thus obtain a better understanding of the physical layout of the play environment and of the ways in which they might want to try using it.

Tactile maps

In addition to tactile maps, other sensory cues are also included to provide additional situations for encouraging the blind youngster to use his remaining senses more effectively. In one such situation, in order to find his way through a given play activity, it is necessary for the blind child to acquire the ability to detect and differentiate, through the soles of his shoes, a subtle change of texture and/or slope of the walkway. In other situations, he is required to develop the ability to sense the slight change in temperature that occurs when walking through a shadow cast by an adjacent or overhead play structure. Elsewhere, the blind youngster must develop the ability to perceive in his play the size and shape of volumes of space which surround him, and to be able to detect the location of specific play objects located within these spaces.

Variety of sensory cues

In some situations, in order to participate effectively in a particular play activity, it is necessary for the blind child to develop the ability to orient himself properly in space by accurately apprehending the relation between his own position and that of a known adjacent structure or object. From this orientation he is then required to establish and follow an effective line of travel to a desired play destination. Elsewhere, he must learn to use his sense of hearing to detect and follow a given sound source, as an orientation guide, in moving through a play space.

Orientation skills

☐ To play effectively, blind children must be able to move about successfully and to orient themselves properly in relationship to significant elements in their surroundings. This was the basic concept upon which the design of the play environment was developed. The stress was on both learning and play. For most sighted children, learning and play are basic processes which seem to occur naturally together. In the case of blind children, the two are even more dependent upon each other, but in a less natural way. For blind children, a greater emphasis must be placed on learning orientation and mobility in order for effective play to be possible.

Learning and Play Combined

☐ In the evaluation part of this study, it was decided that the philosophical method of research of asking for the judgments of qualified people would be used to assess the effectiveness of this design for a play environment. The select sample of professionals who participated were qualified by virtue of their training and experience in working with blind children. They were asked to evaluate the effectivensss of the various elements of the specially designed play environment in helping blind children to develop through their play a higher level of orientation and mobility skill. A majority of these professionals were orientation and mobility specialists and teachers of blind and visually handicapped pre-teenage children in both residential and day-school settings. In addition, there was a school psychologist specializing in work with blind and handicapped children,

Evaluation Process

a visually handicapped recreation therapist who works with visually handicapped children, and a research designer with several years of experience in planning and constructing play environments for blind children.

Presentation and interview

The procedure used to elicit the judgments of these individuals included the presentation of the design for the play environment via slides and recorded descriptions and a questionnaire form. At a personal interview with each individual, the questionnaire form was given to him and the recorded and pictorial material presented. At specific points in the presentation, each interviewee was asked to make an evaluation, based on his professional judgment, regarding the various design elements of the environment. The evaluations were made on a rating scale with the following range of choices: very effective, effective, not effective, or very ineffective.

The evaluation data so obtained were analyzed and used to test the hypothesis that a majority of knowledgeable professionals would agree that the design of the play environment was at least "effective" in helping blind children improve their orientation and mobility skills. The results of the testing supported this hypothesis.

Discussion

☐ Overall, 78 percent of the interviewees rated the play environment as a complete unit as "effective" or "very effective." There were some significant differences, however, between the evaluations made by the various professional groups represented in the sample. All of the orientation and mobility specialists and the teachers at a private nonresidential school gave the play environment as a whole unit a rating of "effective" or better. Seventy-five percent of the teachers from a public nonresidential school gave it a rating of "effective" or better, while only 50 percent of the teachers from a public residential school so rated it.

Design elements rated

In rating the ten individual design elements that make up the play environment, there were again important differences of opinion among the professional groups. Orientation and mobility specialists rated eight of the ten elements as "effective" or "very effective," and two as less than effective. Teachers at a private nonresidential school rated all ten as "effective" or better. Teachers at a public nonresidential school felt that seven were "effective" or better, while teachers at a public residential school rated only six at this level of effectiveness.

Overall evaluation

The overall evaluation of all interviewees clearly indicated that a large majority agreed with the concept of developing a play environment in which play and learning are combined to provide better opportunities for blind children to improve their orientation and mobility skills. Here again, however, there were several important areas of disagreement brought out by the study that should be mentioned.

Safety

Several significant comments regarding the question of safety, in relation to the physical limitations of blind children, led to the criticism of various aspects of individual design elements. To a designer attempting to provide for the play needs of blind children, such observations from a group of professionals is extremely valuable. This is a particularly good example of the benefits to be derived from an interdisciplinary approach to the solution of a problem.

Supervision

Another point raised by several of the interviewees involved the matter of

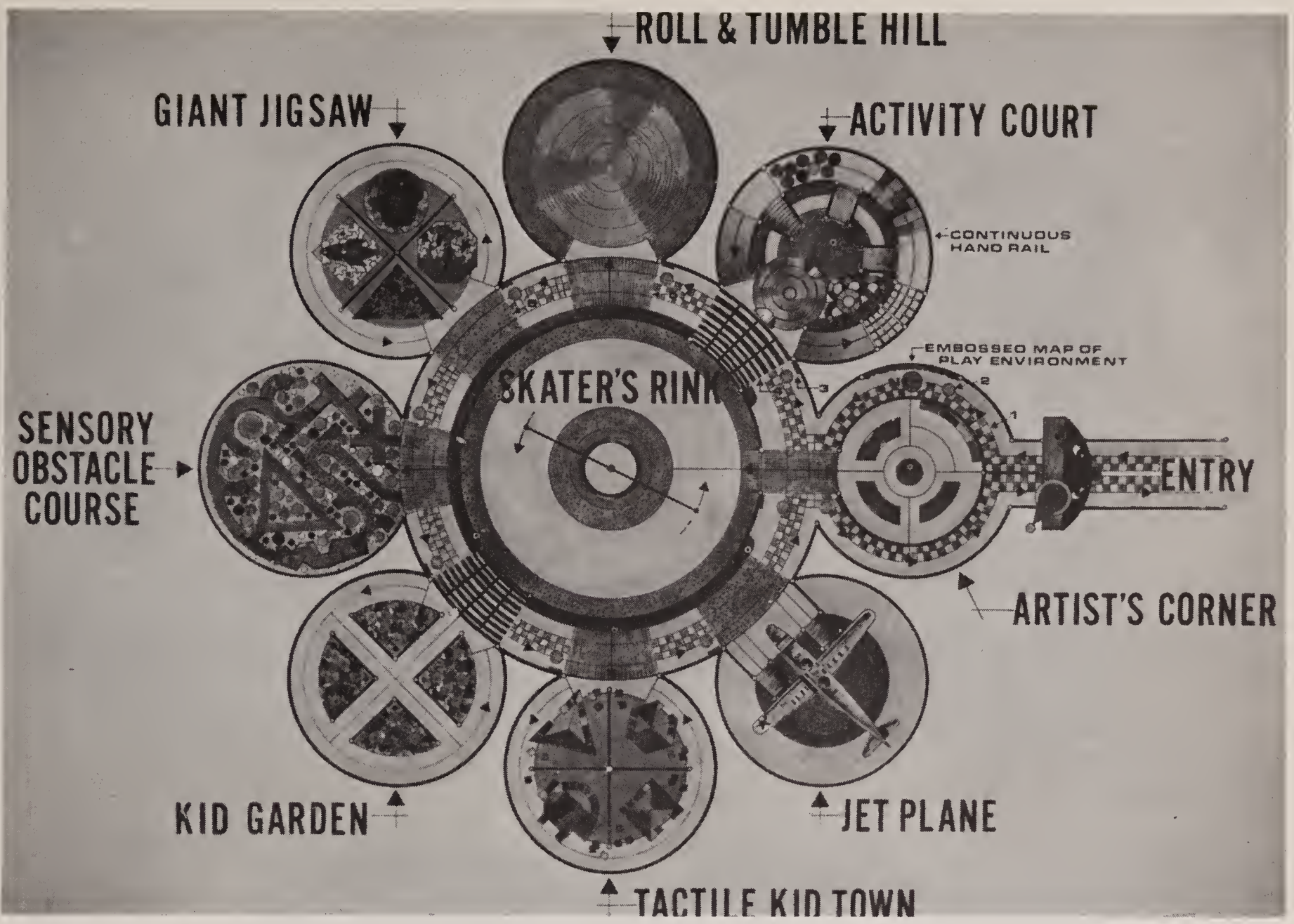


Figure 1
Overall Layout of the Play Environment

how much or how little supervision would be required to operate such a play environment. Some felt that only a minority of pre-teenage blind youngsters could easily learn the skills necessary for the effective use of such an environment with little or no supervision, and the great majority of children would probably require varying degrees of assistance. This clearly indicates that both the type and extent of supervision should be a major consideration in any design effort attempting to provide for the play needs of blind children.

Use of Maps

☐ One of the most interesting and controversial aspects of the study involved the use of embossed tactile maps as devices for helping blind persons both to learn and improve their orientation and mobility skills. Because of the success of such researchers as Kidwell and Greer, Bentzen, and Berlá in the use of such maps as instructional tools for blind persons, tactile maps were incorporated in the design of the play environment. The results of the evaluation indicated a distinct difference of opinion among the professional groups. While 50 percent of the public residential school teachers rated their use as "effective" or better, all of the private nonresidential school teachers so rated the use of tactile maps. To further complicate the situation, 75 percent of the orientation and mobility

specialists rated the use of the maps as "effective" or better, while 75 percent of the public nonresidential school teachers felt they were less than effective.

Minority disapproved of idea

A small but vocal minority of the interviewees strongly opposed any effort that proposed the dilution of the purity of play with a learning requirement. Despite the fact that there can be no effective play for blind children without their developing some degree of skill in orientation and mobility, this small group insisted that free, unrestricted play should not be limited or structured by the imposition of a required learning experience.

Another small minority of the interviewees refused to accept any type of special design for blind children, reasoning that such provisions tend to create an unreal situation that is more harmful to the blind youngster than helpful. They argued that the best way for a blind person to make it through life is to learn to compete on an equal basis with his sighted counter-part. It was felt that any type of special design, such as a special play environment, would tend to coddle and further isolate the blind child. It should be pointed out, however, that the research of Luciana Steinzor, among others, strongly indicates that the chances for many blind children to succeed independently in play are minimal when they are in competition with sighted children. Steinzor's work suggests that this may explain the tendency of many blind children to prefer playing with other blind children, rather than with sighted children.



Figure 2
Entrance

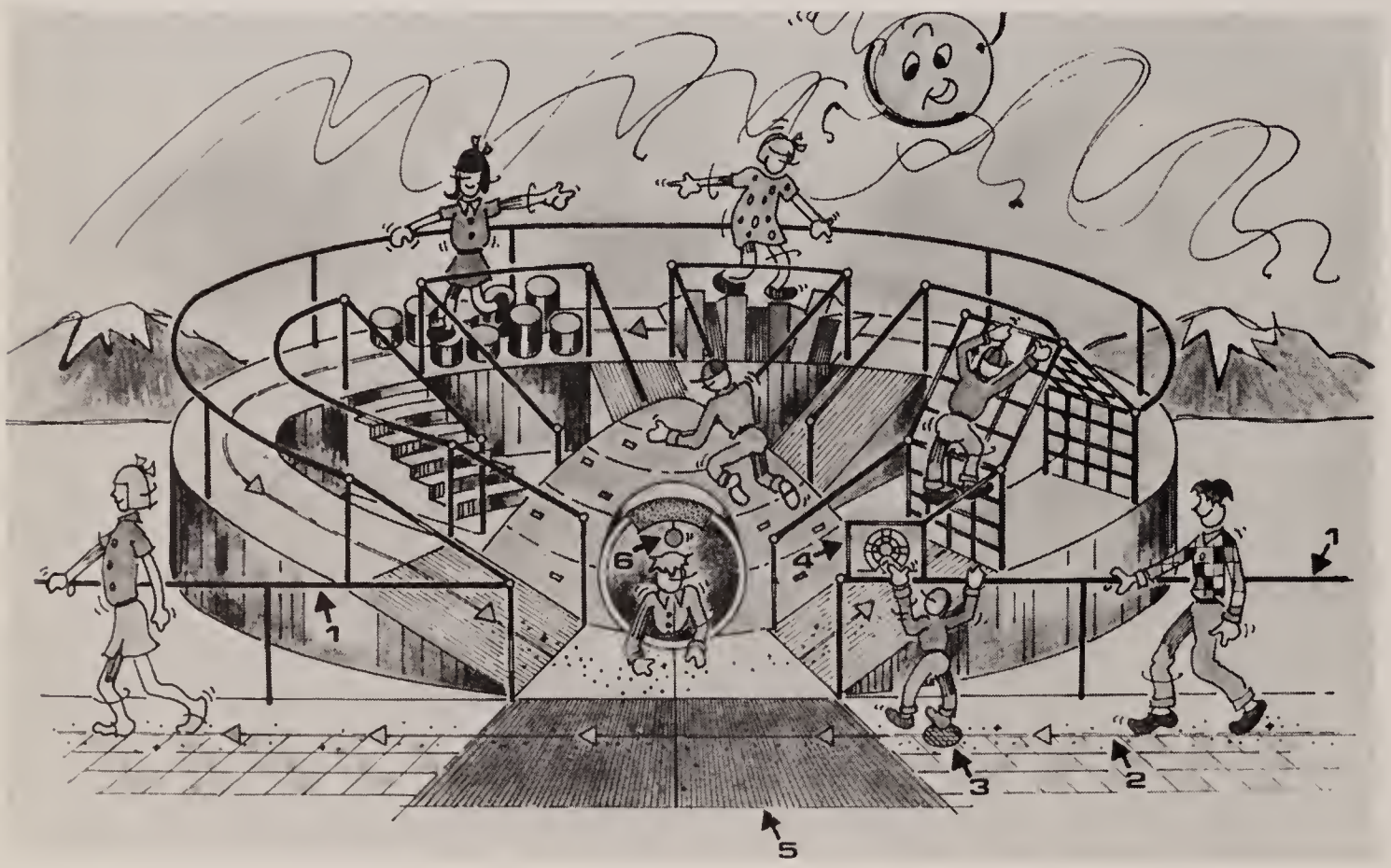


Figure 3
Activity Play Court

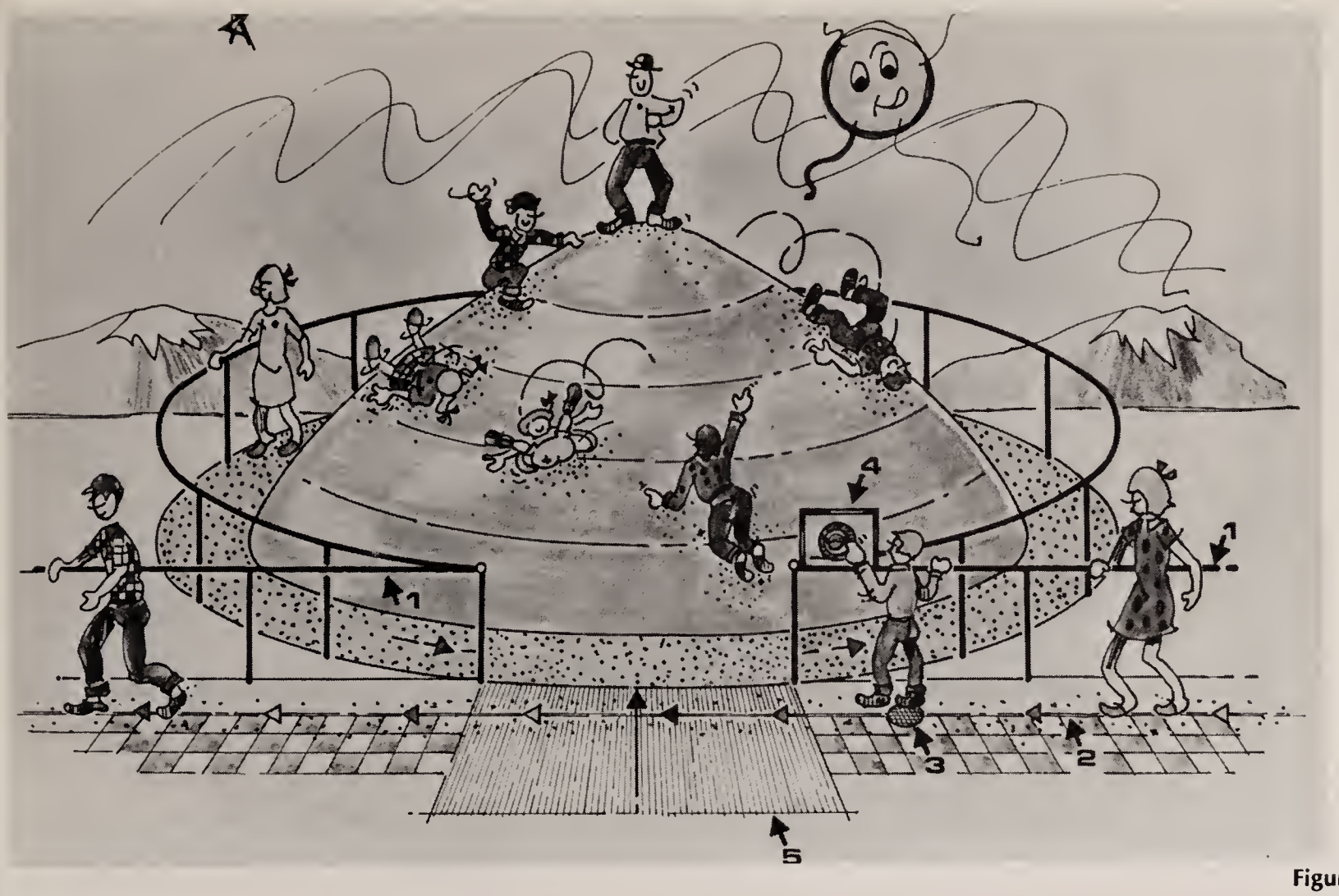


Figure 4
Roll and Tumble Hill

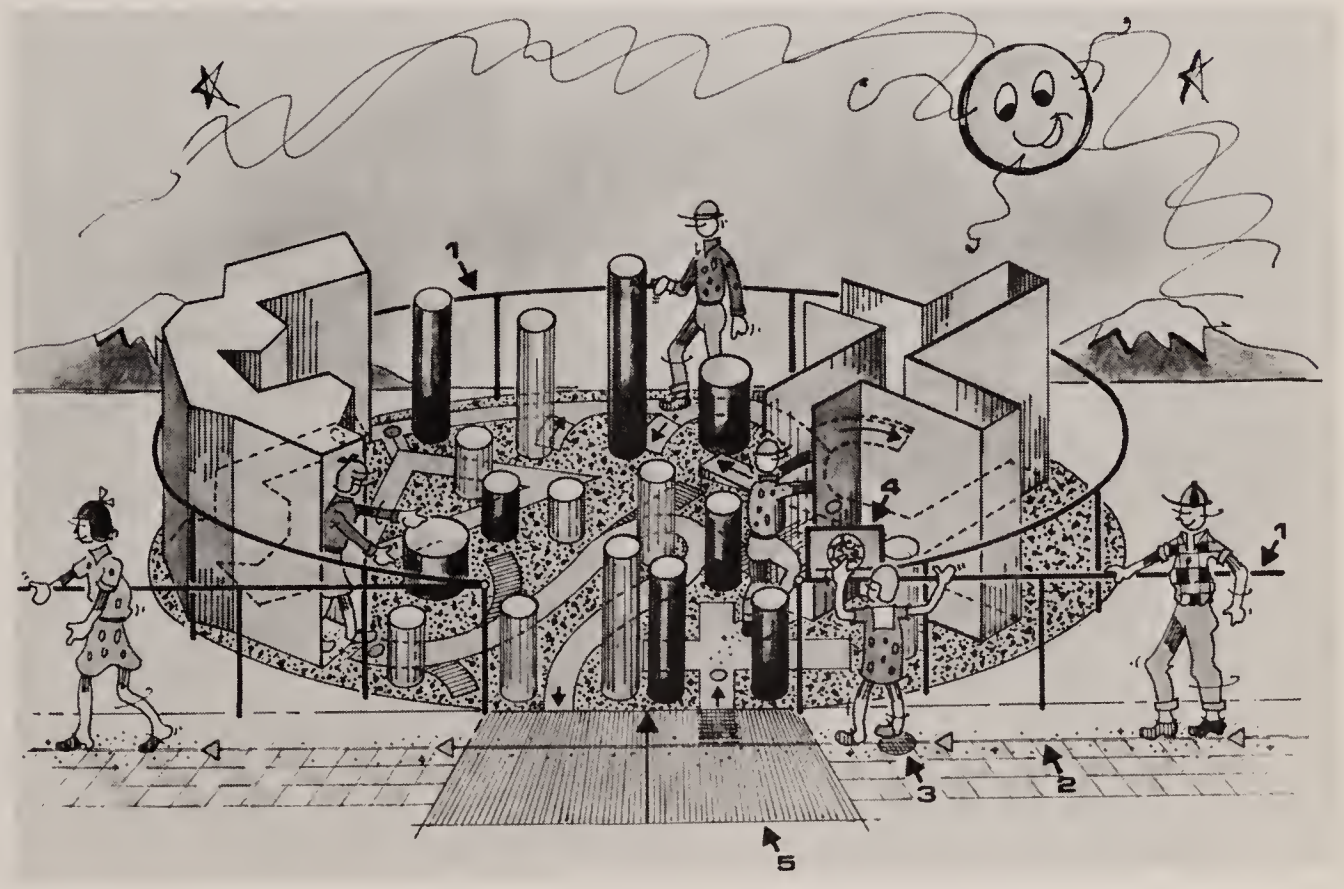


Figure 5
Sensory Obstacle Play Course

Figure 6
Tactile Kid Town

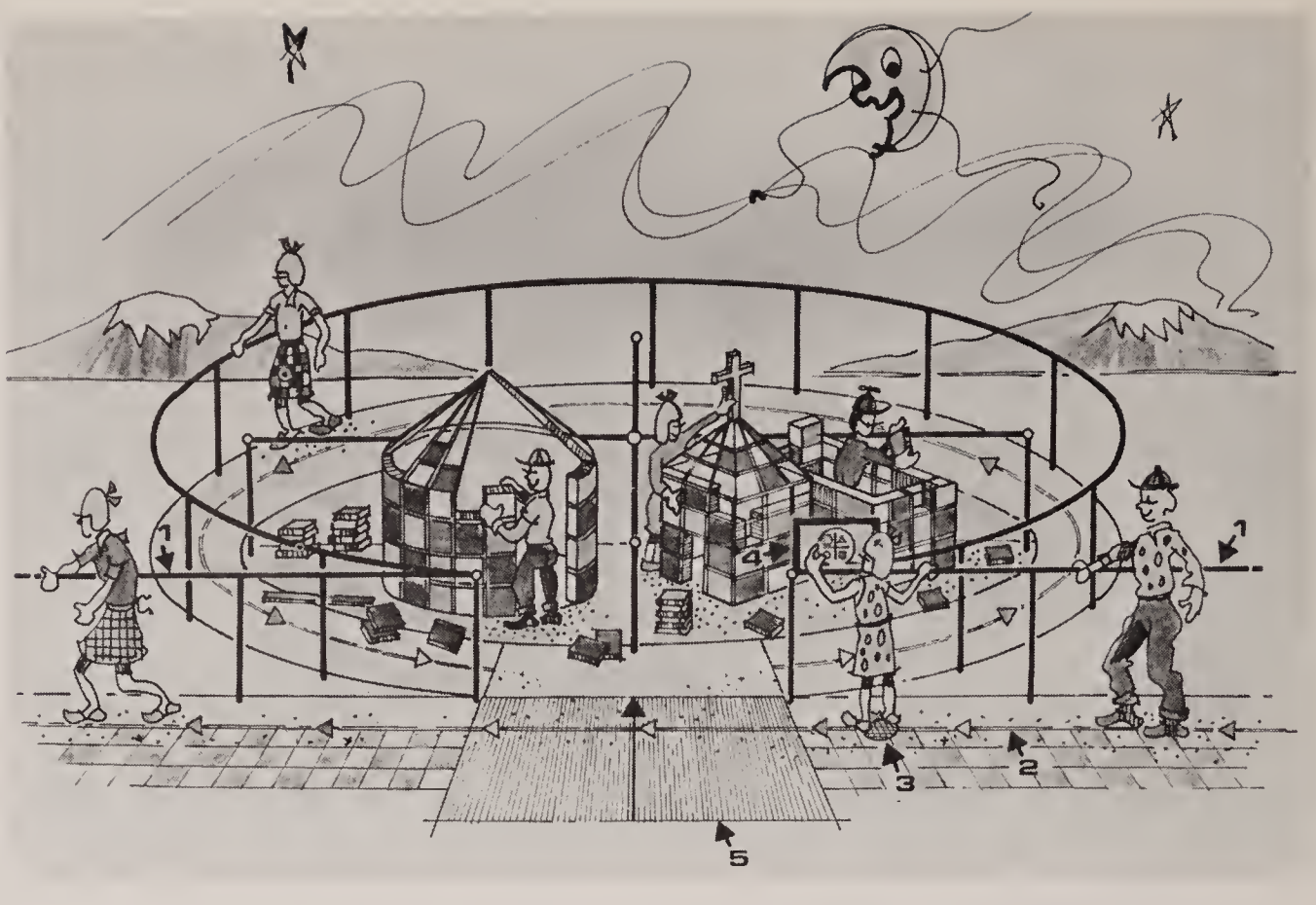
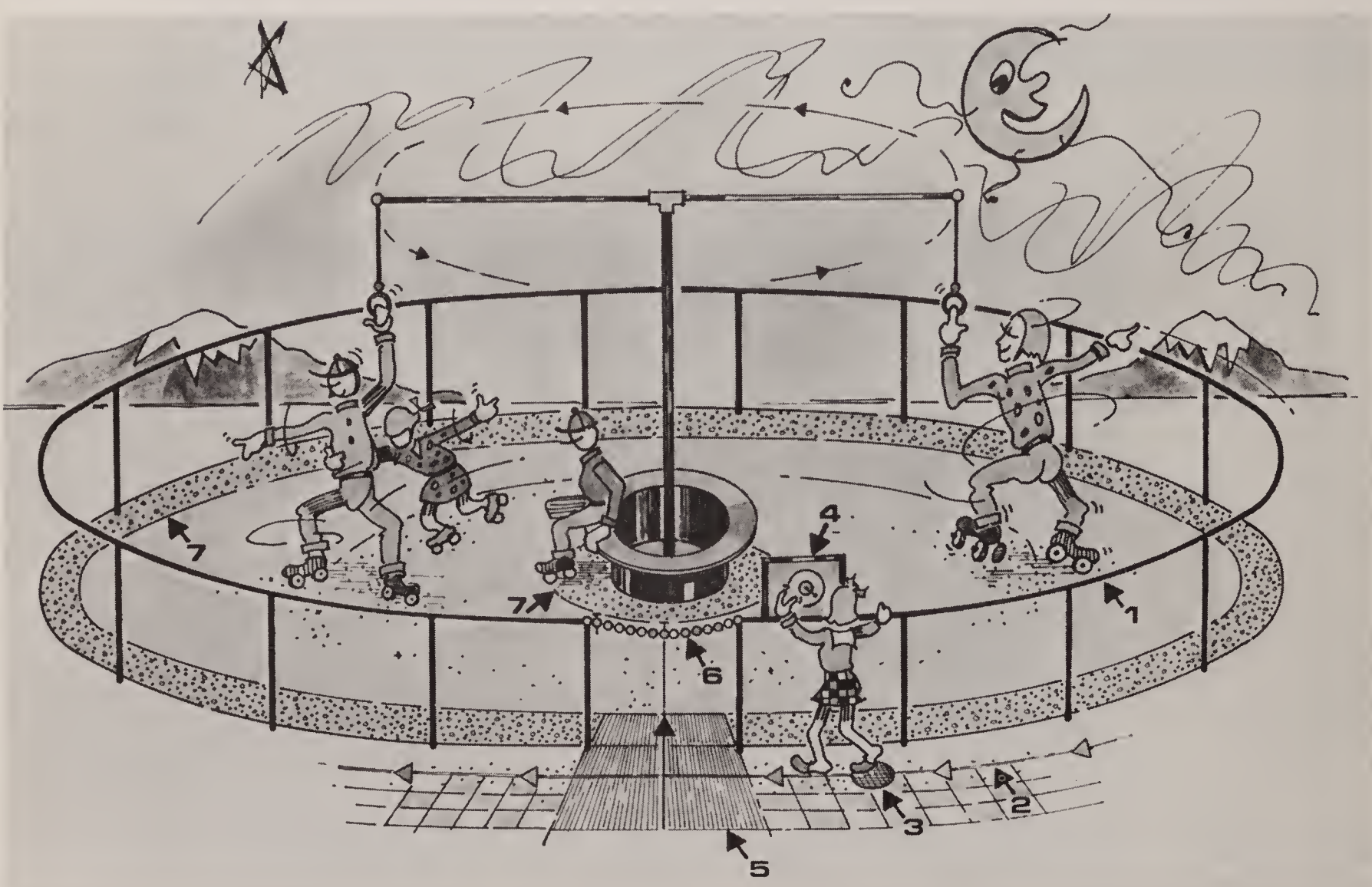


Figure 7
Skater's Rink



Listening Skills: A Review of the Literature Continued

This article is continued from page 369 of the October 1974 issue.

KATHRYN M. DAUGHERTY

Ms. Daugherty is with the Department of Special Education and Rehabilitation, School of Education, University of Pittsburgh.

Foulke, E. Non-visual communication: III—the visual reading system. *Education of the Visually Handicapped*, 1969, **1**, 25-26.

Foulke, E. Non-visual communication: IV—reading by listening. *Education of the Visually Handicapped*, 1969, **1**, 79-81.

Foulke, E. Non-visual communication; V—reading by listening. *Education of the Visually Handicapped*, 1969, **1**, 120-121.

Foulke, E. Non-visual communication: VI—reading by listening. *Education of the Visually Handicapped*, 1970, **2**, 23-25.

Foulke, E. Non-visual communication: VIII—reading by listening. *Education of the Visually Handicapped*, 1970, **2**, 57-59. Five articles discussing the basic problems of the aural reading system in comparison to the visual reading system. The basic difficulties of aural reading include: lack of control by the reader, passivity in listening, difficulty in scanning, indexing and categorizing, inability to alter sequence, and dependence on the oral reader's skill. Criteria are given for the development of playback equipment and recorded material. A source for identifying problems, especially of a technical nature.

Foulke, E., Amster, C. H., Nolan, C. Y., & Bixler, R. H. The comprehension of rapid speech by the blind. *Exceptional Children*, 1962, **29**, 134-141. A study measuring the listening comprehension of blind children as a function of word rate and type of material. Subjects included 291 male and female braille readers in grades six, seven, and eight of 11 residential schools who were tested for comprehension of literary and scientific materials in both the formats of 1) braille and 2) recorded rates of 175, 225, 325, and 375 wpm. Compression was done by the Tempo Regulator, an instrument developed in Germany to discard word segments in compression. An analysis of variance disclosed a significant interaction effect between mode of reading and type of material. No significant loss of comprehension occurred below 225 wpm. At faster rates, the loss was significant. In general, reading by listening was much more efficient than braille reading in terms of allotted time.

Foulke, E., & Robinson, J. *The development of accelerated speech as a useful communication tool in the education of the blind and other handicapped children.* Progress Report of Project No. 7-1254 of the Perceptual Alternatives Laboratory, University of Louisville, Louisville, Kentucky, February 16, 1970. A discussion of the work of the Perceptual Alternatives Laboratory. Four current studies are mentioned dealing with time-compressed speech. In general, results favor the use of aural reading and compressed speech over braille.

Fulton, R. J. Language laboratories develop the listening ear. *Modern Language Journal*, 1959, **43**, 224-225. A discussion of the use of "listening" to learn a foreign language which has many implications for auditory training.

Gardner, R. C. A language aptitude test for blind children. *Journal of Applied Psy-*

chology, 1965,**49**, 135-141. A reference on testing. Three studies are reported which describe the use of the Modern Language Aptitude Test with blind students.

Goldberg, M. H., & Swinton, J. R., (Eds.) *Blindness research: the expanding frontiers.* University Park: The Pennsylvania State University Press, 1969. An excellent source for critical areas of research in the education of the blind. The section by Carson Nolan on "Listening" outlines basic areas which are in need of further investigation.

Gore, G. V., III. A comparison of two methods of speeded speech. *Education of the visually handicapped*, 1969, **1**, 69-76. A study examining the relative effects of compressed speech and accelerated speech on the comprehension and recall of material by blind students. A sample of 32 subjects was tested on both modes. Results indicated that recall was higher for compressed speech. Normal rates were found to contribute to higher comprehension in common sense, and interpretation subtests, in addition to narrative and aesthetic material.

Greenwich Public Schools. Study skills: listening. *Grade Teacher*, 1967, **84**, 122-123. Suggested exercises are listed for teaching "listening" in grades K through 12.

Hare, Hammill, & Crandell

Hare, B. A., Hammill, D. D., & Crandell, H. M. Auditory discrimination ability of visually limited children. *New Outlook for the Blind*, 1970, **64**, 287-293. An investigation of the ability of blind children to distinguish speech phonemes and to compare this with the ability of sighted subjects. Using the Irwin Sound Discrimination Test with 85 blind and 77 sighted subjects, no difference was found between blind and sighted subjects. Auditory discrimination, MA and CA were related.

Hartlage, L. C. Differences in listening comprehension of the blind and the sighted. *International Journal for the Education of the Blind*, 1963, **13**, 1-6. Another study which found no significant differences between the blind and sighted in listening comprehension.

Hartlage, L. C. Listening comprehension in retarded blind. *Perceptual and Motor Skills*, 1965, **20**, 763-764. A study exploring the differences in listening comprehension between blind and sighted subjects of low mental ability. Twelve retarded blind and 12 retarded sighted subjects with a mean IQ of 41.17 and an average age of 19 were tested for listening comprehension. No significant differences were found. There was a high correlation between listening comprehension and IQ (blind 0.748, sighted 0.803).

Hollingsworth

Hollingsworth, P. M. So they listened: the effect of a listening program. *Journal of Communication*, 1965, **15**, 14-16. A study evaluating the Educational Development Laboratories' Listen and Read Program in terms of its effect on reading achievement, listening comprehension, and study skills development. The program involved 28 fifth-grade subjects, during a ten-week period. Analysis of covariance when applied to test scores revealed no significant difference in gain scores. Further hypothesis was that the use of taped programs without teacher intervention might not be effective.

Hollingsworth, P. M. The effect of two listening programs on reading and listening. *Journal of Communication*, 1964, **14**, 19-22. A study assessing the effect of two commercial listening skills programs on listening and reading comprehension. Materials included the Education Development Laboratories' Listen and Read Program (Modified by E) and the Science Research Associates' Listening Skill Builders, 11c. The sample included 291 eighth-grade pupils divided into two experimental and one control group. Ten weeks of instruction comprised the treatment

phase. Post-test measures included the Stanford Achievement Test, Advanced Reading Test, and Sequential Test of Educational Progress, Listening Test, Form 3A. Using the analysis of covariance technique, no significant differences were found between the three groups on any of the criterion measures. The author concluded that listening comprehension was not affected by these programs.

Husni-Palacios & Palacios

Husni-Palacios, M., & Palacios, J. R. Auditory perception and personality patterns of blind adults. *Journal of Projective Techniques and Personality Assessment*, 1964, **28**, 284-292. A study to develop a projective auditory technique in which a series of sound segments are presented to a blind adult to study his projections, associations, perceptions, and creative integrations. The test was standardized on three groups of blind subjects ($n = 212$), 20 to 50 years old. Results indicated that blind subjects who were employed in outside competitive industry gave greater structure to the stimulus situation and were not as "perplexed and confused" by the stimuli. The sheltered workshop and unemployed groups produced fewer units of thought and were more passive in the listening situation. This study illustrates the contribution of "experiential background" to the blind person's approach to the listening situation.

Irwin

Irvin, C. E. Activities designed to improve listening comprehension. *Journal of Communication*, 1954, **4**, 14-16. A list of suggestions on how to "teach" listening, including attention, personal analysis, controlling distractions, main ideas, details, introduction, conclusion, and "subcognitive" sensory reactions.

Irvin, C. E. Motivation in listening training. *Journal of Communication*, 1954, **4**, 42-44. Nine motivational reasons for effective listening.

Johnson

Johnson, F. C., & Frandsen, K. Administering the Brown-Carlsen Listening Comprehension Test. *Journal of Communication*, 1963, **13**, 38-45. Research comparing three methods of administering the Brown-Carlsen Test. The authors concluded that prerecording by audio-tape lessens variability and maximizes reliability by standardization of presentation.

Johnson, K. O. The effect of classroom training upon listening comprehension. *Journal of Communication*, 1951, **1**, 57-62. Research to determine the effect of training on the listening comprehension skills of college freshmen. A pretest-posttest design was used to measure the effect of a nine-exercise program on the comprehension skills of 112 subjects. The criterion was the American Council on Education's Cooperative English Test on Reading, Forms T, R, and Q, in recorded form. Results showed that the experimental group improved significantly in comprehension ($p = 0.01$).

Johnston, E. Changes in comprehension of visually handicapped students after utilizing a controlled program of training in listening. Masters thesis, University of Nebraska, 1963.

Keller

Keller, P. W. Major findings in listening in the past ten years. *Journal of Communication*, 1960, **10**, 29-30. An article describing the states of knowledge about listening between 1949 and 1959, including: 1) Listening involves a separate set of skills. 2) Listening can be taught. 3) Listening involves and is correlated with several factors (IQ, reading, scholastic ability, etc.).

Knower, F., Philips, D., & Koeppel, F. Studies in listening to informative speaking. *Journal of Abnormal Psychology*, 1965, **40**, 82-88. A study to assess the effect of three variables on listening comprehension, including note taking, test anticipation, and speaker quality. The sample included 500 college students who were exposed to three lectures varying in content and mode of presentation. Results in-

dicated: a speech with visual aids produced greater learning, more recall occurred with a good speaker, and test anticipation produced more recall.

Lowenfeld

Lowenfeld, B. *Braille and talking book reading: a comparative study.* New York: American Foundation for the Blind, 1945. A landmark study in the research pertaining to the education of the visually handicapped. Its major effect was to clarify the importance of listening, in communication for the blind, just as Rankin did for the sighted in 1928. The purpose of the research was to compare braille reading with talking book reading in the areas of speed and comprehension.

The sample consisted of 481 students in grades three, four, six, and seven in 12 residential schools. Criterion measure was the Standard Test Lessons in Reading (McCall and Crabbs), in recorded and braille forms.

Data were collected in the following three areas:

1. Rate. The average braille reading rate was about 1/3 as fast as the talking book rate. (Sixth graders who read braille at 62 wpm could listen to material at 158 wpm.)
2. Comprehension. Talking book straight reading was significantly superior to braille reading, with four months in grade score achievement above braille (for grades 3-4). Lower IQ groups showed greater comprehension with talking books. For grades six-seven, however, braille reading was significantly better for textbook material, even with lower IQ groups.
3. Preference. Students preferred talking books with sound effects and dramatization. Talking books were generally preferred over braille.

The conclusion was that both speed and comprehension were increased by using talking books. The superiority of braille for sixth and seventh graders in regard to textbook materials was attributed to "past practice and habituation" (p. 42).

McClendon, P. I. An experimental study of the relationship between the note-taking practices and listening comprehension of college freshmen during expository lectures. *Speech Monographs,* 1958, **25**, 222–228. A study examining the effect of note taking against the criteria of comprehension of expository material. Using the ANOVA (Analysis of Variance) design, three variables were examined in their relationship to comprehension: note-taking methods, lectures, and level of classes. The sample was composed of 678 freshmen in 36 communication skills classes. Three taped expository lectures were given under varying experimental conditions. Tests of both delayed and immediate recall were administered to each group. Results showed that all interactions were nonsignificant in terms of recall. Each note-taking group was equally effective in delayed recall, regardless of the method used. The author concluded that no difference in comprehension occurs as a result of note taking.

Markgraf

Markgraf, B. Listening pedagogy in teacher-training institutions. *Journal of Communication,* 1962, **12**, 33–35. A study to determine the extent to which listening is included in the curricula of teacher-training institutions. A survey method was employed with a sample of 406 colleges and universities. Results indicated that although 80 percent of the schools supported listening, only 33 percent included it as a separate unit, and only three universities had special courses to teach "listening."

Martin, J. G., & Monaghan, R. R. Symbolic interaction: analysis of listening. *The Journal of Communication,* 1968, **18**, 127–130. A list of sources on listening is given for the purpose of developing a wide, multi-analytic view of listening.

Meiry, J. The vestibular system and human dynamic space orientation. *American*

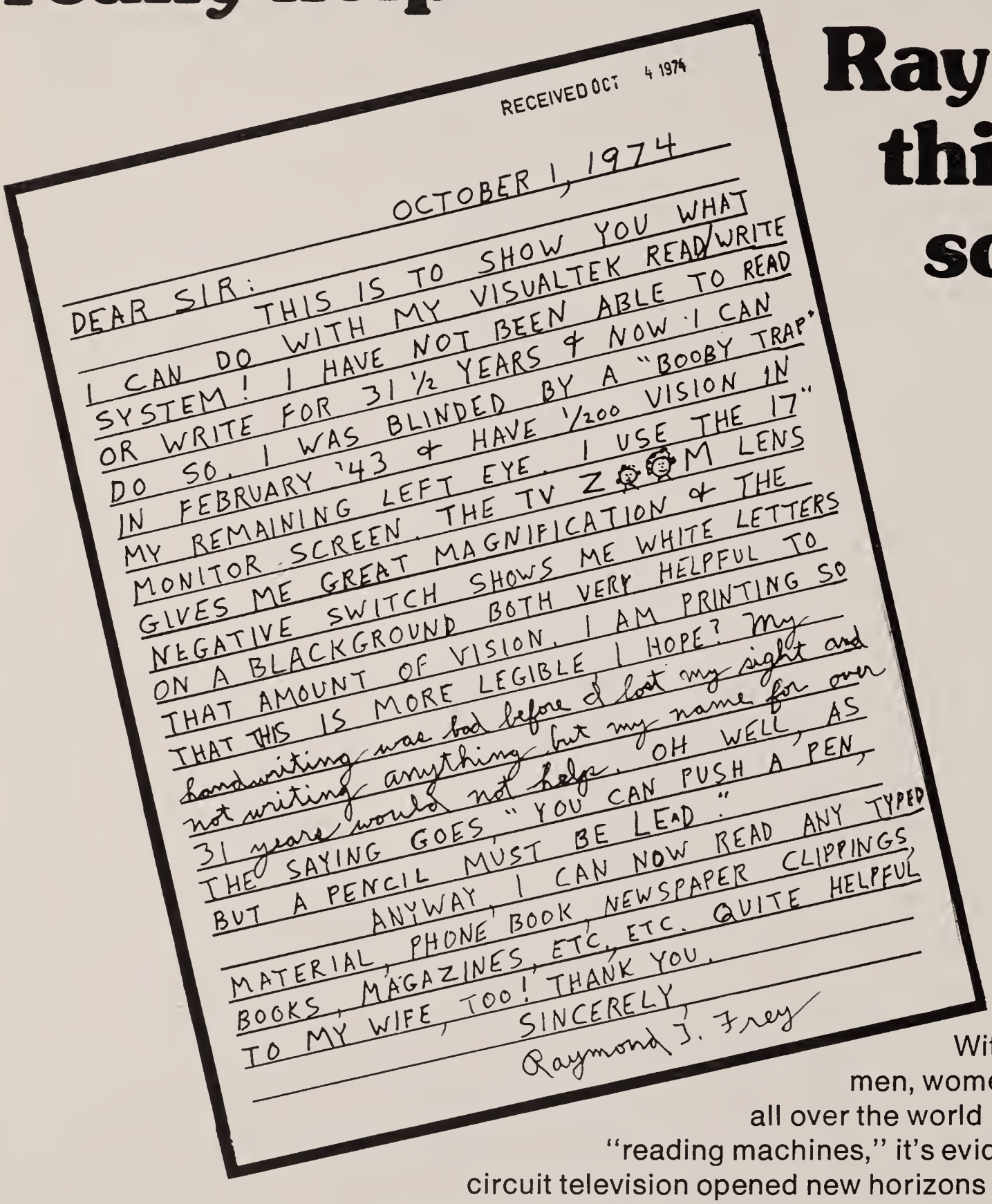
Foundation for the Blind Research Bulletin, 1968, **18**, 141–265. An article discussing the psychology and function of the vestibular system.

Methods for improvement of listening efficiency in individuals with visual impairment. Claudell S. Stocker, Project Coordinator, Final report of Project 83–R025.6 (July, 1967-June 30, 1968). Kansas State Department of Social Welfare, Division of Services for the Blind and Physically Handicapped, 1970. An extensive study to develop a curriculum for a formalized course in listening comprehension for subjects with severe visual impairment, and to assess the effect of such a program utilizing an objective test. The theoretical basis for this project rested heavily on previous research by Brown (1951), Nichols (1960), Duker (1965), and Bischoff (1967). A pre-posttest design was utilized to ascertain the effects of training on comprehension. The sample included 72 subjects, ages 16–18, from the Kansas Rehabilitation Center and 29 subjects, ages 18–25, from the Little Rock Rehabilitation Center in Arkansas. As part of his initial entrance to a Center, each subject was given the Brown-Carlsen Listening Test, Form AM, and the Wide Range Vocabulary Achievement Test to establish achieved grade level. Personal data on age, sex, visual acuity, IQ, and rehabilitation were also collected. The treatment consisted of a 10- to 17-week course in listening instruction for Kansas subjects. A three-phase course was planned including: a Listening Readiness program stressing awareness and elimination of "rote" techniques, a skills phase in which purposeful listening was taught, and a phase on the development of recall and retention. Following training, the BM form of the Brown-Carlsen test was administered. A chi-square analysis was used to test high and low difference scores on the two forms of the Brown-Carlsen test. No significant differences were reported between experimental and control groups composed of congenitally blind subjects. The Topeka adventitiously blind group did show some improvement over the Arkansas control group ($p = 0.02$) using a two-tailed test. The total Topeka Group showed an average gain of 25 percent in listening efficiency. The congenital totally blind group showed the lowest pretest scores and the highest gain scores of 29 percent improvement. The authors commented that the congenitally blind do not manifest high listening efficiency without specialized training. It was also observed during the three year project, that "the greatest inhibitor to better listening efficiency is the emotional filter" (p. 30), a concept which describes the role of preconceptions in selective listening (Nichols, 1954). It was felt that subjects who developed total insight became better listeners and gained more from the project. This was not experimentally validated.

Morris, J. E., & Nolan, C. Y. Materials and techniques for study: a consumer survey. *Education of the Visually Handicapped*, 1969, **1**, 8–11. A study, part of a long-term research project being done at the American Printing House for the Blind, to examine aural reading in terms of student needs and equipment, its purpose to analyze textbook content for format efficiency and to explore the study techniques already in use by "sophisticated" visually handicapped students. A 33-question survey of 19 visually handicapped subjects at the University of Texas showed that 83 percent preferred recorded material to braille, except in the areas of math, physical science, graphics, and reference areas. None of the students had received formal training in the use of aural materials. All reported taking notes. Two major problems reported involved finding one's place on the recorded material and referring back to material.

Nichols, R. G. Listening instruction in the secondary school. *Bulletin of the National Association for Secondary School Principals*, 1952, **36**, 158–174. An article deal-

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ing with discriminative listening as distinguished from critical and appreciative listening. A list of "bad listening habits" is given in addition to suggestions for secondary school programs.

Nichols, R. G. Needed research in listening communication. *Journal of Communication*, 1951, **1**, 48–50. An article suggesting major areas for listening research including: measurement of skills, pedagogy, identification and description of skills, and correlational factors (sex, age, background) etc.

Nichols, R. G., & Stevens, L. A. *Are you listening?* New York: McGraw Hill, 1957. An excellent source on general listening efficiency and the concept of "emotional filters."

Nolan, C. Y. Reading and listening in learning by the blind. In E. P. Peacock (Ed.) *Issues and Advances in Educational Psychology*. 1969, 220–223. Also in *Exceptional Children*, 1963, **29**, 213–316. A study to identify technological and methodological problems for future research. The sample included 70 male and female braille readers in grades six to ten, comprising three braille groups, three listening groups and one control group. The task was learning a science passage and answering comprehension questions. Results showed that listening time was only 1/3 of braille reading time (see Lowenfeld, 1945) and comprehension after five days was about equal between the two modes. Suggestions for methodology in future research were to increase the homogeneity of sample or use of ANOCOVA (Analysis of Covariance) technique, and make the test longer.

Nolan, C. Y., & Morris, J. E. Learning by blind students through active and passive listening. *Exceptional Children*, 1969, **36**, 173–181. A study to assess the effect of active participation on learning through listening. Subjects included 360 legally blind braille students in grades four through seven, and eight through 12. Material included three passages on social studies, literature, and science, presented at rates of 175 and 225 wpm. The mode of listening varied as follows: 1) Continuous listening (passive). 2) Listening interrupted in four 45-second intervals for review (active). 3) Listening interrupted at four four-minute intervals for note-taking (active). Motivation was generated by offering a prize for comprehension. Analysis of variance yielded: 1) Comprehension was greater for 175 wpm than 225 wpm. 2) Presentation affected comprehension with highest results obtained with note taking, and lowest with continuous listening. 3) Active participation leads to greater learning for literature and science at the high school level. 4) In the elementary grades, interruption is better for compressed but not for regular materials.

Nolan & Morris

Norris, M., Spaulding, P. J., & Brodie, F. H. *Blindness in Children*. Chicago: University of Chicago Press, 1957. Good general reference on the developmental aspects of blindness.

Norton, F. Training normal hearing to greater usefullness: a progress report. *New Outlook for the Blind*, 1960, **54**, 199–205. An experiment to evaluate training using binaural tapes on the auditory localization skills of mobility trainees at the New York Lighthouse and the Cleveland Society for the Blind. A matched sample of 50 trainees from eight to 55 years old were evaluated. Results confirmed that binaural localization skills improved with practice.

Continued next month.

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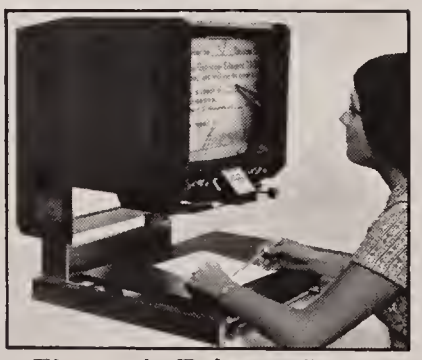
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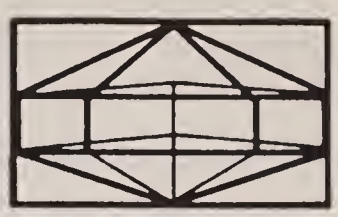
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Hindsight / M. Robert Barnett



Contact Brazilian Style

The English word, "contact," or its Portuguese equivalent, "contacto," has many meanings and many usages. It can be a verb or a noun. It can be both at the same time, perhaps. For in Sao Paulo last August, people from all over the world were contacting and making contacts in grand style.

The Brazilian assembly of the World Council for the Welfare of the Blind created yet another meaning that, for those who attended from foreign countries, is a memorable one. Like most conventions where a significant number of blind persons are anticipated, the recruitment of "guides" is considered essential. These usually are scouts—boy and/or girl—and as an interesting coincidence, the latter are actually called girl guides in some countries—but having nothing to do in the first instance with guiding blind people around.

All of us have observed with pleasure the patient and conscientious attention to duty of these small fry. One may have wondered at times whether they, themselves, derive either satisfaction or education from the experience. In any case, the Brazilian leaders in work for the blind evidently saw a golden opportunity for exposure of a group whose involvement would be both pleasurable and professionally sound. A sizeable number of college students, young men and women, were recruited and trained. Most, if not all, were pursuing studies in special education or social work; and most, if not all, had a smattering of English language ability, or French, or Spanish and when those were inadequate they were great at sign language.

The most interesting thing to me about these young people was their refusal to be called "guides." They insisted on being "contactos."

And contacts they certainly were. Not only did they provide physical and language assistance, they were constantly in evidence to copy and distribute papers of all kinds, and to speed up and down the aisles of the auditorium handing portable microphones to frequent and vocal delegates demanding the floor. They acted as go-betweens in the lunchroom, where the personnel either could not or would not speak anything but Portuguese—and neither did the printed menu. They showed people to rest rooms and busses—usually the right ones.

The generosity of these contactos may have stemmed simply from the fact that they are Brazilians. Perhaps, too, that is the source of their untiring good nature and unflagging energy. Nevertheless, they surely proved to be a wonderful contact for their country for all of us foreigners, who otherwise would have been less in touch.

Secret Balloting—When Is It Not?

It seems that in most organizations with a membership and a set of elected officers, most of us humans hope that there will be no contest. Even in associations where the physical problem of balloting is not a great problem. It is usually considered "nicer" if the nominating committee has done its job well, has satisfied through its own horse-trading all loyalties, all vested interests, and in addition has presented the names of those persons who unanimously are thought to deserve the honor.

The World Council for the Welfare of the Blind certainly is no exception to this pleasant tendency. In its 25 years of existence—meeting in global assembly every five years—it has never been faced with a political contest that actually reached the floor. That is, not until this year in Brazil.

The reason for this division is not what I wish to write about, especially since it is a bit obscure. Suffice it to say that there was a distinct atmosphere of regional and national, if not ideological, differences of opinion about the leadership of the Council. It also should be noted for the record that there was an element of presumed contest between representatives of the "organized blind" and those they have organized against.

The reality of these differences becomes obvious when one learns that the election for the presidency could have been swung either way between two very attractive candidates by a mere three votes. What I really want to tell you about is the problem of a secret ballot—the procedure for which not only was unprecedented, but was further complicated by the blindness of a large percentage of the members and the difficulty of explaining procedure in a number of different languages.

These factors worked together to disqualify the first ballot, even though the procedure was well planned. Six ballots were not returned in the prescribed manner, and the membership had to be polled on a roll-call vote as to whether the six should be rejected. They were. Then, another roll-call vote was taken to decide if the election could stand on the remaining ballots. It could not.

The startling thing about all this is that rumor spread throughout the room that acceptance or rejection of the remaining ballots would decide the election in favor of one's own candidate. The chairman had volunteered that the six votes could definitely affect the outcome, but he did not say in whose favor. Whether his announcement was wise or not, it should be noted that the secrecy of the balloting had been damaged by a leak from the counting desk.

Be that as it may, a second ballot was taken. This whole business kept the delegates in their seats for three hours—without a lunch break, but democratic principles prevailed over pangs of hunger.

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More About Secret Ballots

I was sitting in the auditorium, talking quietly with colleagues, the United States flag and placard in front of us. Suddenly, I felt the heat of television lamps.

"I wish to ask you a question," a feminine voice said in perfect English. "Did you vote for Richard Nixon in the last election?"

"I beg your pardon, Miss. That is a question I never answer, and I like to think it is my private concern, no matter who is the President of the United States."

The reporter—for that was what she was—for a Sao Paulo television station then told me that Mr. Nixon had resigned, and asked, "What is your reaction?" I mumbled something about the whole matter being unfortunate.

The next day we were told that there would be an effort to show the swearing-in ceremony of Gerald Ford through Telstar. Those of us from the United States, somewhat subdued in what was rather an emotional moment, were deeply impressed to observe the intense interest in our government's new direction shown by virtually all of the delegates from 50 other countries. It's something to think about—and I do.

Comment



A special forum for individuals to respond in detail to material published in the New Outlook for the Blind *or elsewhere, to present new ideas, or to raise issues which relate to the specialized field of work with blind and visually handicapped persons. Contributions should be 350-1000 words in length.*

A Nature Trail for All People

Walter Boninger

On July 9, 1974 a formal award was presented to the Cleveland Metropolitan Park District officials on behalf of the "Harriet L. Keeler Woodland Trail For All People." John D. Cherry, representing the Bureau of Outdoor Recreation, U. S. Department of the Interior, awarded a plaque indicating that the trail has achieved national trail registry status. This event is significant because the Cleveland Metropolitan Park District is currently one of only three recipients of this prestigious award given for a trail of this type.

During the early planning stages for this trail, the park's chief naturalist, Harold Wallin, and his staff came and talked with us. We shared with them the policy statement of the American Foundation for the Blind and other material generally critical of these specialized trails and fragrance gardens. In addition, we pointed out that all persons enjoy experiencing art and nature with senses other than sight. One of the more frustrating aspects of museum visits is the relentless parade of "Do Not Touch" signs. Most everyone has a great desire to touch and would welcome a section of a museum set aside for "Do Touch" objects. Similarly, a nature trail could be constructed so that everyone could benefit in using other senses in experiencing its unique beauties.

Although Mr. Wallin visited a number of such trails and spoke with many persons across the country, we like to believe that it was our conversation which inspired the idea of "Trails for All People." They are beautiful trails, well thought out, and have indeed been enjoyed by all people—mothers with strollers, older persons, those in wheelchairs, and the deaf. There are guidewires and special adaptations to make it possible for a blind person to walk the trail independently. Braille and large print descriptions of the trail are available from the naturalists at the Trailside Interpretive Center.

We are particularly pleased that nowhere in the title of this trail is there an indication that it is for the blind or the handicapped. It is a trail for all people. We feel the Cleveland Metropolitan Park District is to be commended for using this approach, and we want to share it with others because it has great merit. Anyone wishing more information about this trail or two others like it within the Metropolitan Park System of Greater Cleveland should get in touch with Harold Wallin, Cleveland Metropolitan Park District, 2000 Northern Ohio Bank Building, Cleveland, Ohio.

Walter Boninger is associate executive director of community services, The Cleveland Society for the Blind, Cleveland, Ohio.

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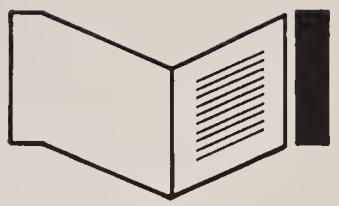
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Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

Listening for the Visually Impaired, by Claudell S. Stocker. Charles C Thomas, Publisher (301-327 E. Lawrence Avenue, Springfield, Illinois 62703), 1973, xxiv + 167p. $7.95. A teaching manual developed at the Kansas Rehabilitation Center for the Blind in Topeka, Kansas, based on the results of a 1967-70 government grant project concerned with improving listening efficiency.

Gross Motor Development in Infants Blind from Birth, by Edna Adelson and Selma Fraiberg. *Child Development* (University of Chicago Press, 5801 Ellis Avenue, Chicago, Illinois 60637), Vol. 45, No. 1, March 1974, pp. 114-126. Report on a longitudinal study of 10 infants observed from birth to two years at the University of Michigan Medical Center's Child Development Project. Reprint requests should be addressed to the first author at the Child Development Project, 201 E. Catherine Street, Ann Arbor, Michigan 48108.

Believing without Seeing: Teaching the Blind Child in a "Regular" Kindergarten, by Pearl E. Tait. *Childhood Education* (Association for Childhood Education International, 3615 Wisconsin Avenue, N. W., Washington, D. C. 20016), Vol. 50, No. 5, March 1974, pp. 285-291. Practical advice on general handling as well as specific suggestions to aid the teacher in making games and activities meaningful to the visually handicapped child.

A Survey of Cognition in Handicapped Children, by Patrick Suppes. *Review of Educational Research* (American Educational Research Association, 1126 16th Street, N. W., Washington, D. C. 20036), Vol. 44, No. 2, Spring 1974, pp. 145-176. Literature survey divided into three main parts: (1) problems of language and language development; (2) concept formation and abstraction; and (3) elementary mathematical skills. The three handicaps concerned are blindness, mental retardation, and deafness.

Behavioral Change in a Deaf-Blind Multihandicapped Child, by David Tweedie. *The Volta Review* (Alexander Graham Bell Association for the Deaf, Inc., 3417 Volta Place, N. W., Washington, D. C. 20007), Vol. 76, No. 4, April 1974, pp. 213-218. Report on a project in which video tape programs documented behavioral change over a four-year period.

Blind People as Volunteers, by Audrey Koch. *The Rehabilitation Teacher* (National Braille Press, Inc., 88 St. Stephen Street, Boston, Massachusetts 02115), Vol. 6, No. 6, June 1974, pp. 3-7. The author, who is the Rehabilitation Teacher for the Aging Project of the Columbia Lighthouse for the Blind in Washington, D. C., reports on her success in finding satisfying service projects for some of her clients.

Situation Signature: A Case Study, by John A. Buell. *The Rehabilitation Teacher* (see address above), Vol. 6, No. 6, June 1974, pp. 9-13. Detailed description of the equipment and method used by the author in teaching one of his students to sign her name.

Mobility, Physical Education and the Total Academic Experience of the Blind College Student, by Elly Adair. *The Rehabilitation Teacher* (see address above), Vol. 6, No. 6, June 1974, pp. 15-23. Discussion by a peripatologist of the many special problems faced by the blind college student.

When Assisting a Blind Patient, by Alice D. Furlong. *The Professional Medical Assistant* (American Association of Medical Assistants, 1 East Wacker Drive, Chicago, Illinois 60601), Vol. 7, No. 3, May-June 1974, pp. 16-20. The hypothetical patient described in this article is seeing a doctor because of illness unrelated to his blindness. This particular issue of the journal also contains a reprinting of William Goodman's article, **When You Meet a Blind Person,** which originally appeared in the *New Outlook for the Blind,* June 1970.

Vision Screening and Hearing in the Elderly, by David Miller and Rachel Stern. *The Eye, Ear, Nose and Throat Monthly* (Professional Press, Inc., 5 North Wabash Avenue, Chicago, Illinois 60602), Vol. 53, No. 4, April 1974, pp. 128-133. Report on the audiometric and ophthalmologic results of a screening survey of 115 persons living in a housing project for the elderly.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information is desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Agency Administration

The Wages of Inflation, by Roger G. Kennedy. *Atlantic Monthly* (The Atlantic Monthly Company, 8 Arlington Street, Boston, Mass. 02116), Sept. 1974, pp. 57-58. According to the author, taxing savings through inflation is a deadly peril not only for individuals but also for our nation's independent institutions, which are being taxed away by a continuing, unadmitted capital levy.

Aging

Aging and IQ—The Myth of the Twilight Years, by Paul B. Baltes and K. Warner

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Schare. *Psychology Today* (P.O. Box 2990, Boulder, Colorado 80302), Vol. 7, No. 10, March 1974, pp. 35-40. Claiming that intellectual decline is largely a myth, the authors hope that society, aided by geropsychology, soon finds ways to make life for the elderly more enjoyable and effective. Some measures they favor include adult-education programs, funding of research and innovative programs in voluntary retirement, second-career training and leisure-time activity, and better utilization of skills unaffected by age.

Architecture

Environmental Design, by Thomas Walz, Georgiana Willenbring, and Lane deMoll. *Journal of the National Association of Social Workers* (49 Sheridan Avenue, Albany, New York 12210), Vol. 19, No. 1, January 1974, pp. 38-46. "Knowledge of the basic elements of environmental design could perhaps add new dimensions to the services that social workers provide to their clients. A proposal is made that might open up new roles for social workers."

Consumerism

Report on Status of Eyeglass-related Injuries, *Medical World News* (1221 Avenue of the Americas, New York, New York 10020), March 15, 1974, pp. 60-61. Despite an FDA ruling of January 1, 1972 that all lenses sold in the U.S. must be impact-resistant, eye-glass-related injuries are still not rare. The FDA's National Electronic Injury Surveillance System (NEISS), operated by the Bureau of Product Safety, provides through computers information on eye-glass-related injuries and their causes. The Consumer Products Safety Commission, where the NEISS data are evaluated, would be willing to compile a full report on such injuries, "but so far no one has expressed much interest."

A Consumer's Dictionary of Cosmetic Ingredients, by Ruth Winter. Crown Publishers (419 Park Avenue South, New York, New York 10016), 1974. Cloth $5.95, paper $3.95. Claiming that cosmetics can cause rashes, headaches, asthma, and even blindness, this book details the ingredients of every type of popular cosmetic and lotion for men and women (skin creams, lipsticks, shaving creams, deodorants, hair dyes, etc.), tells you which ones may be dangerous to your health, and lists alternate choices that may be safer and even cheaper.

Early Childhood

Let's Stop Destroying Our Children, by Shirley Camper Soman. Hawthorn Books, Inc. (260 Madison Avenue, New York, New York 10016), 1974. 257p. $7.95. Graphic case histories describe senseless child injuries and fatalities through abuse, neglect, and abandonment. Offers positive steps toward prevention and correction, including a Bill of Rights for Children as a constitutional amendment.

Education

A Continuing Summary of Pending and Completed Litigation Regarding the Education of Handicapped Children is available for $2.00 from SFICEC, the Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091.

Continuing Education—Teaching Staff to Teach, by Louise A. Frey, Eunice Shatz, and Edna-Ann Katz. *Social Casework* (44 East 23rd Street, New York, New York 10010), Vol. 55, No. 6, June 1974, pp. 360-368. The Division of Continuing Education of Boston University School of Social Work has joined with a number of agencies and organizations providing social and mental health services on a project to make them education centers by training the staff to set up courses and teach. This article describes the program, called Educating the Educators, the ideas upon which it is based, and its outcomes and suggests resources which other agencies and individuals might use to develop similar programs.

Mainstreaming the Handicapped, by Myron Brenton. *Today's Education* (National Education Association of the United States, 1201 16th Street N. W., Washington, D. C. 20036), Vol. 63, No. 2, March-April 1974, pp. 20-25. The author reports on the extent to which the special needs of physically handicapped children are being met in the public schools and espouses "mainstreaming," i.e. integrating handicapped children with "normal" children in the regular classrooms.

Federal and State Benefits

The Demonstration Grant Is Probably Counter-productive, by George E. Pratt. *Social Work* (Journal of the National Association of Social Workers, P.O. Box 504, Murray Hill Station, New York, New York 10016), Vol. 19, No. 4, July 1974, pp. 484-486. The author's experience during the last ten years in Sioux City, Iowa and his study of human service programs in this community suggest that demonstration grants from the federal government and other groups are counterproductive. The futile attempt to replace declining demonstration grant funds with local funds and the failure of the programs to generate local support for their continuation have resulted in the phasing out of more than a dozen such projects.

Films

Meeting the Challenge of Blindness, The Seeing Eye's Public Information Office (One Rockefeller Plaza, Suite 1912, New York, New York 10020), 1974, 28 min. Intended as an aid to medical groups, nursing schools, and organizations concerned with the rehabilitation of blind people. Emphasizes the positive approach sighted people should take in dealing with blindness and with newly blinded persons.

The Two-Foot World of Paul Jackson (Greater Detroit Society for the Blind, 1401 Ash Street, Detroit, Michigan 48208), 1973, 16mm., color. Preview copies available free of charge. A film which underscores the importance of preschool eye screening.

Legislation

The Wheels of Congress: A Primer Article on Legislative Procedure, by Joseph H. Owens, Jr. *Journal of Rehabilitation* (National Rehabilitation Assocition, 1522 K Street N.W., Washington, D.C. 20005), March-April, 1974. pp. 19-22, 39. People dedicated to the rehabilitation of handicapped persons, like all interested citizens, need to know the basics of presenting their views to members of Congress. In his



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brief look at the legislative process, the author examines the functions of a congressional office, the committee system, and the lobbying strategy.

Limited Vision

Understanding Children Who Are Partially Seeing: A Classroom Teacher's Guide, by Martha G. Sullivan. Bernie Straub Publishing Co., Inc., (4535 Union Bay Pl., N.E. Seattle, Washington 98105), 1974. 34p. $1.50. A guide to assist classroom teachers in providing the media and technique that will facilitate maximum learning in partially seeing children. Technology, classroom considerations, physical education, and teacher expectations are discussed. A brief appendix of equipment and activities for the partially sighted student is included.

Multiply Handicapped

A Look at Programs for the Blind Child With Additional Handicaps in England, by Gideon Jones. *Education of the Visually Handicapped* (1839 Frankfort Avenue, Louisville, Kentucky 40206), March 1974, Volume 6, No. 1, pp. 14-18. The author hopes that the changes in the English system of education will preserve and enhance service to the blind child with additional handicaps by retaining the good aspects pointed out in this article, such as special facilities, concerned staff, subjective evaluation of the pupils, and vocational orientation.

Psychology and Perception

Behavior Therapy in Psychiatry, by American Psychiatric Association Task Force on Behavior Therapy. *American Psychiatric Association Monograph Series* (American Psychiatric Association, Washington, D.C.), No. 5, 1973, ix + 75p. $3.00 (paper). Begins with a short history of the development of "behavioral" approaches; summarizes techniques which it calls "behavior therapy methods" now in use, such as systematic desensitization, token economics, and aversion treatment for the addictions; discusses the efficiency of behavior therapy and its potential contribution for the development of a more "scientific" psychiatry; outlines the current research deficits of the behavior therapies.

Recreation

Gourmet Menu Book, by Anne B. Colmery. (Department of Blind Rehabilitation, College of Education, Western Michigan University, Kalamazoo, Michigan 49001), 1974. Large print ($3.00) and braille editions presenting various menus with recipes for brunches, luncheons, and buffet dinner parties serving 12.

Retinitis Pigmentosa

A Father's Fight Against Blindness, by Vivian Cadden. *McCall's* (The McCall Publishing Company, 230 Park Avenue, New York, New York 10017), Vol. 101, No. 12, September 1974, pp. 28-38. The true story of a family in which two daughters are stricken with retinitis pigmentosa, a genetic, retinal disease causing blindness and without a cure. The article describes how the father and others helped to organize and fund the Retinitis Pigmentosa Foundation and the Laboratory for the Study of Retinal Degeneration, a research center in Boston sponsored by the eye department of the Harvard Medical School and dedicated to understanding and stemming this disease.

Sex Education

Selected References on Low Cost Sex Education Publications for Teen-Age Youths, (Publications Department, American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204), 1974, 14p. 50 cents ($1.00 minimum order). An annotated list of low cost sex education booklets and pamphlets suitable for junior and senior high school age youths.

Social Work

Reflections on Interstate Adoptions, by Arlene L. Nash. *Children Today*. Children's Bureau, Office of Child Development, Office of Human Development. (Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402), Vol. 3, No. 4, July-August 1974, pp. 7-11. An article about ARENA (Adoption Resource Exchange of North America), a clearinghouse organized and operated by the Child Welfare League of America to help adoption agencies find homes for their hard-to-place children. Although many of the children registered with ARENA have handicaps (including blindness), their adoption by families has been facilitated through ARENA.

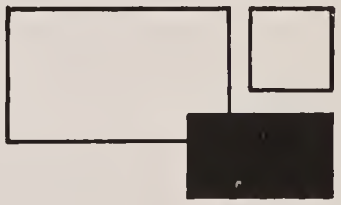
Testing

Choice of Preschool Vision Test, by Otto Lippmann. *Eye, Ear, Nose, and Throat Monthly* (5 North Wabash Avenue, Chicago, Illinois 60602), May 1974, Vol. 53, No. 5, pp. 195-199. The correct choice of preschool vision test methods for group screening and individual physician's examinations is stressed. Several well-known and easily available tests are reviewed and their relative values described. A list of test material dealers with their addresses is included.

Vocational Rehabilitation

Vocational Rehabilitation Workshop Costs, by William S. Houston, Jr. *Management Accounting* (National Association of Accountants, 919 Third Avenue, New York, New York 10022), Vol. 56, No. 2, August 1974, pp. 15-21, 39. In the workshop's production operations the business function of producing marketable goods and services occurs simultaneously with the social function of rendering rehabilitation services. The purpose of this article is to question the need for separate vocational rehabilitation workshop costs.

In Brief



■ In July 30 blind New York subway riders and their escorts picketed an IND Station at Second Avenue and Houston Street where a blind man was killed by a train July 13, 1974. Protesting against "a lack of safeguards" in the new air-conditioned cars, the demonstrators said the ends of these cars did not have folding gates, chains, or springs to prevent people from falling off a platform between two cars and onto the tracks.

■ The Blind Learning Aptitude Test (BLAT) is now available at $20.00 per kit from Dr. T. Ernest Newland, 702 South Race Street, Urbana, Illinois 61801.

■ The Department of Health, Education, and Welfare has begun a drive to implement fully Medicaid's five-year-old Early and Periodic Screening, Diagnoisis and Treatment Program, which requires that 13 million underprivileged children be given tests and the necessary treatment for various physical disorders, including poor vision, that are more prevalent among the underprivileged than in the population as a whole. New services will be provided to help states implement the program, which to date has served only two million of the eligible children. Based on the results of screening thus far, it is estimated that of the 11 million children yet to receive care, one million need corrective eye treatment.

■ The American Foundation for the Blind is planning a series of symposia on aging and blindness to reach residents of retirement communities and provide them with information about visual impairments which will enable them to lead more independent lives. The first symposium was held May 7, 1974 in St. Petersburg, Florida, sponsored jointly by the Foundation and Senior Advocates International, Inc., and arranged by M. Robert Barnett, AFB ex-executive director and William C. Fitch, SAI president.

■ Nominations for the Apollo Award, an honor for distinguished service to the visual welfare of others, are being sought by the American Optometric Association for the first time from persons and organizations outside of the profession of optometry. Individuals, educational institutions, or organizations performing a significant public service for the visual welfare of mankind; research programs in visual science; or civic and community services relating to vision care are eligible for nomination in the 1974 Apollo competition, which closes December 1, 1974. Official Apollo Award nomination forms and complete rules are available from the Public Information Division, American Optometric Association, 7000 Chippewa Street, St. Louis, Missouri 63119.

■ New York's Governor Malcolm Wilson signed a disability amendment to the State Human Rights Law, providing legal recourse to disabled persons who have been refused jobs, housing, or public accommodation. This law, the strongest piece of legislation for the disabled on any level of government, enables handicapped persons to press charges against discrimination, under the jurisdiction of New York State's Division of Human Rights.

■ The Florence Jolley Piano Method, containing recorded instructions on two 60-minute cassettes which accompany a book of music for the beginning student, is now available in braille. The method, emphasizing the creative approach to music, covers more than a beginning semester of college piano. The entire package including the brailled copy is available for $14.00 from Innovative Music Studies, Box 3636, Santa Monica, California 90403.

■ Twin Vision Lending Library supplies reading material for blind persons and, in particular, for any blind person who would like to read conventional print-picture books to and with a sighted child. Twin Vision Publishing is an activity of the American Brotherhood for the Blind and serves blind people in the entire United States and Canada. For an application to become a library subscriber, write Twin Vision Lending Library, 18440 Oxnard Street, Tarzana, California 91356.

Appointments

■ American Diabetes Association: **Max Ellenberg, M. D.,** president.

■ Arkansas Enterprises for the Blind: **Louis H. Rives, Jr.,** director of research and staff development, rehabilitation center.

■ American Public Welfare Association: **Edward T. Weaver,** director.

Awards

■ The Disabled American Veteran of the Year: **Salvatore D'Amico,** social worker, Veterans Administration Hospital, Newington, Connecticut.

■ Dr. Richard Kinney Challenge of Living Award of the Hadley School for the Blind: **Dr. Peter J. Salmon,** director, National Center for Deaf-Blind Youths and Adults.

Coming Events

November 3-6 Sixth Annual Midwestern Behavior Modification Workshop/Intensive Practicum Workshop, Chicago (contact: Joan F. Bassinger, M. D., P.O. Box 597, Libertyville, Illinois 60048).

November 6-9 American Association of Workers for the Blind, Western States Regional Conference, Portland, Oregon.

November 6-12 American Nursing Home Association, 25th Anniversary Annual Convention, Honolulu.

November 7-10 World Congress on Dyslexia (sponsored by the Orton Society in cooperation with the Mayo Clinic), Rochester, Minnesota.

November 17-20 American Society of Allied Health Professions, New Orleans.

1975

January 14-15 National Braille Association, Regional Meeting and Workshops, St. Petersburg, Florida.

April 20-26 Council for Exceptional Children, 53rd Annual International Convention, Los Angeles.

April 24-29 Association for Research in Vision and Ophthalmology, Annual Meeting, Sarasota, Florida.

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Aud-a-Reader. Battery-AC disc player for 8-1/3 and 16-2/3 rpm. $40.00. SFB Products, Bala-Cynwyd, Pa. 19004.

Instruments, Recreation Equip. Sound or print catalog. Science for the Blind Products, Bala-Cynwyd, Pa. 19004.

CATALOGS

Optacon Catalog—products and services—a complete listing of Optacon Systems, Accessories, Training Course, and Training Material prices. Products are also pictured and described in detail. Write Telesensory Systems, Inc., 1889 Page Mill Road, Palo Alto, California 94304.

Aud-a-log, new 90-min. soundsheet catalog (8-1/3 rpm) of instruments for blind and visually limited. Free. SFB Products, 221 Rock Hill Rd., Bala-Cynwyd, Pa. 19004.

FILMS

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Mobility Instructor. Master's degree in mobility or BA degree and two years experience. Annual salary $11,003-$13,481. Board of Education and Services for the Blind, 170 Ridge Road, Wethersfield, CN 06109. Tel. (203) 249-8525.

Statement of Ownership, Management, and Circulation

(Act of August 12, 1970: Section 3685. Title 39. United States Code):

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11. Extent and Nature of Circulation:

	Average No. Copies Each Issue During Preceding 12 Months	Actual Number of Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies Printed	4,133	4,092
B. Paid Circulation		
1. Sales Through Dealers and Carriers, Street Vendors and Counter Sales	0	0
2. Mail Subscriptions	3,172	3,219
C. Total Paid Circulation	3,172	3,219
D. Free Distribution by Mail, Carrier or Other Means		
1. Samples, Complimentary, and Other Free Copies	406	330
2. Copies Distributed to News Agents, but Not Sold	0	0
E. Total Distribution	3,578	3,549
F. Office Use, Left-Over, Unaccounted, Spoiled After Printing	555	543
G. Total	4,133	4,092

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Mobility Manpower



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Articles

433 Manpower Needs in Orientation and Mobility
Richard L. Welsh, Ph.D., and *Bruce B. Blasch*

444 A Special Short-Term Evaluation/Training Program for Deaf-Blind Adults
David L. Search, M.R.T.

447 The Classroom Application of Behavior Modification Principles for Mutiply Handicapped Blind Students
Patricia A. Gallagher and *Ruth E. Heim*

454 The Other 128 Hours a Week: Teaching Personal Management to Blind Young Adults
Mary Morrison

460 Listening Skills: A Review of the Literature, Concluded
Kathryn M. Daugherty

Departments

471 Hindsight/M. Robert Barnett

473 Review—*Oral-Aural Communications*
"Heard Any Good Books Lately?"

477 Letter to the Editor

479 Current Literature

480 In Brief

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Manpower Needs in Orientation and Mobility

ABSTRACT: This survey of the current status of the specialized field of orientation and mobility instruction—based on 317 questionnaires returned by the administrators of agencies and schools serving blind persons, day-school programs, hospitals, and residential schools for other handicapped persons—collected data on the number of specialists employed, the present and future need for specialists, desired level of training, starting salaries, and other duties. The authors conclude that because of the current and expected levels of employment in this field and the recruitment preferences of administrators, university-level training of orientation and mobility specialists should be expanded.

RICHARD L. WELSH, Ph.D.
BRUCE B. BLASCH

Dr. Welsh is assistant professor and coordinator of blind rehabilitation, Department of Social Services, Cleveland State University, Cleveland, Ohio; Mr. Blasch is executive director, American Association of Workers for the Blind. This study was carried out when both authors were with the Department of Special Education and Rehabilitation, University of Pittsburgh.

Orientation and mobility, as a profession, is still in an early stage of its growth. University-level training in this specialty has existed only since 1960; however, the success of these training programs, as reflected in the demand for orientation and mobility specialists, has already far outstripped the original expectations of those who initiated the programs. In spite of this success, there is a need for accountability even at this early stage in the development of the profession. An attempt must be made to assess the actual need for mobility professionals so that clients and students are best served and resources are channeled into the appropriate places. Recent examples of teacher surpluses in the area of education are a strong reminder of the problems that arise when individuals are prepared for jobs that do not exist.

Assessment of Training Programs

☐ For several reasons, the justification of training programs for orientation and mobility specialists is particularly important. First, if such training programs are conducted properly, they demand a high ratio of faculty to students. This has resulted in relatively costly programs that are usually supported with funds from outside the university. Second, the problem of blindness is one that usually attracts generous support when appeals for funds are made. Leaders in this area, therefore, should be certain that their impressions concerning the true needs of the field are based upon fact. Often, the general public feels inadequate in considering blindness and its problems and, consequently, they tend to place a great deal of trust in the opinions of persons who work in fields related to blindness. Because of this public trust, leaders in this field should make a special effort to base their conclusions and recommendations on data rather than unsupported opinion. A recent example of unsupported opinion was the widely-held notion that putting the training of orientation and mobility instructors on the graduate level was not good for the field, since a person with a master's degree would not be content to merely teach a blind person to travel. Many who did not appreciate the psychosocial aspects of mobility training (Welsh, 1972) felt that the challenges of the orientation and mobility profession were not sufficient to satisfy an individual with a master's degree. It was not until Blasch and Wurzburger (1971) did a follow-up

Graduate-level training

study of all the graduates of master's degree programs that this opinion was disputed. The facts in this instance revealed that of 332 graduates (the total as of 1970), 87 percent were still working with visually handicapped persons, 83 percent were still working in the field of orientation and mobility, and 75 percent were still involved in offering direct instruction. Of the 13 percent not working with visually impaired persons, only five percent were working in another field. Most of the remaining eight percent were women who had to leave the field temporarily because of family responsibilities. Compared to other professions, this was an extremely high percentage of people staying with the profession and a record others aspire to emulate.

Need for factual information

The present survey attempted to collect data that relate to a number of questions about which people in work for the blind have had only opinions and impressions. This survey was the first attempt to collect more factual information about questions such as: What is the need for orientation and mobility specialists? What is the difference between the real need, defined as the number of actual positions that are unfilled, and the theoretical need, the number of mobility specialists that we might use if we had sufficient funds to create all of the positions? At what level should mobility specialists be trained? Is certification required by agencies that employ those specialists? What are the differentials in salary for mobility specialists trained at the different levels? What other duties are orientation and mobility specialists required to perform? Do orientation and mobility specialists serve primarily in centers where students/clients come to them or do they serve in itinerant positions where they go to the student/client and structure lessons in the home or school area? It is expected that the answers to these questions will help in planning the further growth and development of training programs for orientation and mobility specialists.

Method

☐ In June 1973, a two-page questionnaire allowing for an anonymous response was mailed to administrators in agencies that serve blind people, residential schools for blind children, residential schools for other handicapped children, hospitals that have special blind rehabilitation programs, and public school systems across the entire country. These agencies were selected from the seventeenth edition of the *Directory of Agencies Serving the Visually Handicapped in the United States*, published by the American Foundation for the Blind in 1971. The mailing list was composed of agencies that were listed in the directory as providing orientation and mobility services, personal adjustment training, and/or pre-vocational programs. Agencies indicating that their main task was referral to other agencies, funding, or provision of reading materials were not included in the sample selected. In addition, administrators of special education programs at the state level in each of the 50 states and in the American territories were solicited for a list of local educational units which offered special education programs. Questionnaires were then sent to each local educational unit in the 40 states that responded to the original letter. The authors are fully aware of the limitations of survey methodology, but it is felt that an adequate sample was selected for postulating inferences about manpower needs in orientation and mobility.

Results

☐ Of 1,044 questionnaires sent (277 to agencies for the blind, 767 to public schools), 317 or 30 percent were returned, including 135 (48 percent) from agencies and 173 (22 percent) from schools. On nine of the returns, the respondents did not indicate the type of organization.

Number of specialists

The survey asked the respondents to indicate how many full-time and how many part-time orientation and mobility specialists they employed as of June 30, 1973. The returned questionnaires accounted for 417 persons employed with the title of orientation and mobility specialist. Of this number, 332 were employed full-time and 85 were employed part-time. The survey also attempted to ascertain the type of training that these 417 mobility specialists had received. Table 1 lists the number of mobility specialists employed in each of the six types of institutions, broken down according to the six possible avenues of preparation for those positions.

TABLE 1
Level of Training of Mobility Specialists Employed at Various Types of Agencies and Schools

	Rehabilitation Agency	*Production Training Workshop*	*Hospital*	*Residential School for the Blind*	*Other Residential School*	*Day School*	*Total*
Baccalaureate Level	9	0	3	14	0	19	45
Master's Level	119	6	11	54	2	63	255
Concentrated Short-Term Course (Workshop)	11	0	2	6	0	7	26
Agency Training Program	65	3	1	4	0	3	76
Visually Handicapped Person Who Has Received Mobility Training	1	0	1	1	0	4	7
Self-Taught	1	0	0	2	0	5	8
Total	206	9	18	81	2	101	417

Compared with 1970 results

The pattern of employment revealed by this survey compares favorably with the results of the 1970 study by Blasch and Wurzberger (1971). In that study it was found that 49 percent of master's-level graduates were employed in rehabilitation agencies, 18 percent in residential schools, eight percent in hospitals, and 25 percent in public school systems, as compared with 53, 19, 4, and 24 percent respectively in the present study. The fact that the results of these two studies reflect an almost identical distribution among various types of work settings indicates two things: first, the distribution of mobility specialists has fluctuated very little during the past three years; second, the responses to the current survey are representative of the field.

Another aspect of the survey attempted to establish the range of starting salaries for mobility specialists with no experience according to the type of training received (Table 2).

Ages of Clients/Students

☐ The responses to an item concerning the ages of the clients/students served by the mobility staff members of the responding agencies are presented in Table 3. It is obvious from the data that many agencies serve clients in more than one age group. However, the survey did not ask the respondents to indicate what percentage of the time of their mobility staff member was utilized for each of the age groups. The results of cross tabulation between two questions

	Below $333	*$334 to 485*	*$486 to 583*	*$584 to 708*	*$709 to 791*	*$792 to 875*	*$876 to 958*	*$959 to 1041*	*$1042 to 1125*	*$1126 or more*
Baccalaureate		●			$\bar{M}$ = $743					●
Master's		●				$\bar{M}$ = $835				●
Concentrated Short-Term Course	●			$\bar{M}$ = $604			●			
Agency Training Program	●		$\bar{M}$ = $580						●	
Visually Handicapped Person	●		$\bar{M}$ = $569				●			
Self-taught	●			$\bar{M}$ = $594			●			

TABLE 2
Average Monthly Starting Salaries and Starting Salary Ranges by Level of Training

dealing with the number of mobility specialists employed and the ages of the clients/students served is also shown in Table 3.

Site of Instruction

☐ The questionnaire included an item to determine where mobility instruction was offered; that is, whether the clients/students come to a center for instruction, or the mobility specialist travels to the clients/students and provides instruction in the school or home area. The purpose of this question was to establish whether the mobility specialist tended routinely to work in the same area or to go into new areas frequently and therefore develop new lesson plans reflecting the demands and opportunities of the new training areas. In response to the item, "Students come to your facility for instruction," 34 percent indicated that that was always the situation, 21 percent occasionally, and 23 percent never. In response to the item, "Mobility specialists travel to the student to provide mobility instruction," 23 percent indicated that that was always the situation, 13 percent most of the time, 41 percent occasionally, and 23 percent never.

Age Groups	*Percentage of Agencies Offering Services*	*Number of Mobility Specialists Providing Services*
0 – 6	28	121 (30%)
7 – 14	57	244 (60%)
15 – 18	73	391 (97%)
19 – 59	41	304 (75%)
60+	28	214 (53%)

TABLE 3
Age Groups Served by Agencies and the Number of Mobility Specialists Assigned to Each

Other Duties

☐ Two items of the questionnaire concerned the other duties which are required of orientation and mobility specialists in their work situations. The first question asked, "What other duties *do* the mobility specialists perform?" This was followed by, "Which of the duties, if any, do you think the mobility specialists should perform in addition to his mobility function?" The responses to these two questions are given in Table 4. A further analysis of the responses to this question for the rehabilitation agencies, residential schools, and public schools resulted in varying patterns of assignment of orientation and mobility specialists to other duties. The results of this analysis are also given in Table 4. It is interesting to note that public schools more frequently expect mobility specialists to perform other duties than is the case in other settings.

TABLE 4
Additional Duties Performed in Agencies and Schools

Additional Duties	*Currently Expected (Total)*	*Agencies*	*Residential Schools*	*Public Schools*	*Should Perform*
Administration	8%	16%	7%	5%	4%
Supervision of Other Mobility Specialists	16	38	20	3	27
Counseling	36	38	40	68	34
Teach Orientation and Mobility to Other Handicapped Groups	11	13	14	20	20
Teach Academic Subjects	21	4	17	68	11
Teach Daily Living Skills	35	28	40	81	34
Consultation to Other Organizations	36	58	36	51	37

Open Positions

☐ One of the most important questions on the survey asked for the number of open positions for mobility specialists in the responding agencies as of June 30, 1973. This was an attempt to establish the actual need for mobility specialists as of that date. Of those who responded, 203 indicated that they had no open position, while 43 indicated that they had a total of 50 open positions. The organizations with open positions included 21 rehabilitation agencies, one production training workshop, 13 public school systems, seven residential schools for the blind, and one school for other handicapped persons.

Projected number of positions

Still another question on the survey asked the respondents to project their needs for mobility specialists for the next year, the next three years, and the next five years. Table 5 depicts the responses and, in addition, indicates how many positions were projected in each category. The total number of projected positions indicated by all of the respondents was 41 for one year, 82 for three years, and 32 for five years from the time of the survey. It should be noted, however, that a large percentage of the respondents indicated that they did not know or they chose not to respond to this particular item.

TABLE 5
Positions for Mobility Specialists in Various Settings in One, Three, and Five Years

	Rehabilitation Agencies (N=74)			*Residential Schools (N=34)*			*Public Schools (N=128)*			*Workshops (N=8)*			*Hospitals and Other Schools (N=6)*		
	1	*3*	*5*	*1*	*3*	*5*	*1*	*3*	*5*	*1*	*3*	*5*	*1*	*3*	*5*
Will Have No Positions	36	7	5	28	16	13	93	53	55	5	2	1	4	1	2
Will Have Open Positions	20	31	7	4	5	5	6	21	9	2	1	0	0	2	0
Number of Positions	32	49	14	4	6	9	6	25	11	2	2	0	0	2	0
Do Not Know	4	17	21	0	6	7	3	22	22	0	0	7	0	0	0
No Response	19	24	47	2	7	7	26	31	41	1	5	0	2	3	4

Theoretical number of positions

In this same area, the survey asked, "How many additional mobility special-

ists should your institution employ to meet the needs of the visually impaired population you serve as of June 30, 1973 (assuming funds were available)?" This was an attempt to project the ideal number of mobility positions that are needed. The responses indicated that 251 mobility specialists would be required to meet the need if enough funds were available for positions. This 251 included 163 in rehabilitation agencies, 39 in residential schools for the blind, 38 in public school systems, six in production training workshops, and five in hospitals and residential schools for other handicapped persons.

Recruiting Preferences

☐ To ascertain the level from which agency administrators would recruit orientation and mobility specialists, an item was structured so that for each of three levels (baccalaureate, master's, and agency-trained) the administrator could indicate whether he would always recruit from that level, never recruit from that level, or recruit from that level only if necessary. The reactions of the administrators are shown in Table 6.

The final item of the survey asked whether the newly employed mobility specialist was required to meet the national certification standards of the American Association of Workers for the Blind (AAWB). The respondent was also given the opportunity to indicate whether he was aware that such certification existed. The total responses show that 39 percent did require certification, 36 percent did not, and 25 percent were not aware that such certification existed. This last figure is not surprising since the overall sample includes a large percentage of public school administrators; though they may not be familiar with AAWB certification standards, they may instead require teacher certification. When the 127 responses from agencies and residential schools serving blind clients were considered alone, it was discovered that 46 percent did require AAWB certification, while 40 percent did not. Only five percent indicated that they did not know that certification existed; seven percent chose not to answer this item.

TABLE 6
Recruiting Levels of Choice

	Always	*Only If Necessary*	*Never*
Baccalaureate	48%	46%	6%
Master's	76	22	2
Agency-Trained	15	41	44

Discussion

☐ The information obtained in this survey enables us to draw inferences that relate to the manpower needs in the profession of orientation and mobility.

One of the long-standing concerns in work with blind people has been that the majority of the resources seem to be concentrated in services for young people, while the majority of blind people are in the older age ranges. The data from this survey would tend to confirm this trend. Forty-five percent of the mobility specialists work with school-age individuals in residential schools for the blind, residential schools for other handicaps, and public school systems. This would then indicate that 55 percent of the mobility specialists, those working in rehabilitation agencies, production training workshops, and hospitals are primarily working with adults. However, the mobility specialists working in agencies often spend some of their time working with children, usually through a contractual arrangement with a school district. This is verified by the fact that responses to the survey indicated that 28 percent of all the agencies provide some services for children, infancy to age six, 57 percent provide some services for young persons, ages 7-14; and 73 percent serve adolescents, 15-18, in some capacity. Therefore, it is safe to say that more than 50 percent of the mobility specialists are involved in delivering services to

school-age persons who, according to the American Foundation for the Blind (1973), represent only ten percent of the blind population.

Levels of training

The survey data also suggests that 60 percent of all persons offering orientation and mobility services have been trained for this profession at the master's degree level. This is compared to 19 percent who have been trained in agencies, 11 percent on the bachelor's degree level, six percent in short-term training workshops, two percent who are visually handicapped persons who have themselves received mobility training, and two percent who were self-taught. These figures imply that the concept of professionally trained orientation and mobility specialists has been well received in the area of services for the blind. This conclusion is supported by the fact that 71 percent of the practicing specialists have been trained in a formal program at the university level, plus the fact that 76 percent of the administrators always select specialists from the M.A. level and 48 percent always select from the B.A. level. This is all the more remarkable since university-level training programs, particularly the bachelor's degree programs, are relatively recent in origin, while the agency training programs have existed for several decades.

Distribution among agencies and schools

A further analysis of the level of training of specialists employed in various settings focused on rehabilitation agencies, residential schools for the blind, and public school systems, since these are the three situations in which the largest number of mobility personnel were employed. In rehabilitation agencies, four percent of the mobility specialists were from the bachelor's degree level, 58 percent from the master's degree level, five percent from short-term training, 31 percent agency-trained, one percent visually handicapped persons who were taught mobility techniques themselves, and one percent who were self-taught. Considering the distribution of mobility specialists in relation to level of training, rehabilitation agencies have used a smaller percentage of the bachelor's degree people, a proportionate number of master's degree persons, but a high proportion of persons trained in agencies. This indicates that agency training programs are designed to meet only their own local needs and are not considered to be responsive to the demands of the field as a whole. This point is reinforced by the fact that out of all those persons who were trained in agencies, 85 percent are employed in rehabilitation agencies. This trend is further reinforced when the residential schools and public school systems are considered. In the residential schools, 17 percent of the mobility specialists were trained at the bachelor's degree level, 67 percent at the master's, but only five percent were trained at agencies. Similarly, in public school systems, 19 percent were trained at the bachelor's degree level, 62 percent at the master's, and only three percent were agency-trained. This should not suggest that graduates of university programs do not go to work in agencies. As a matter of fact, 62 percent of all the mobility specialists working in rehabilitation agencies are university-trained. It does indicate that persons trained in agencies usually do not end up working in other settings. This may be explained by the response of only 15 percent of the administrators who said they would always recruit from agency training programs. In turn, this may imply that persons trained in agencies are "locked into" the agency where they were trained.

Other Duties

☐ It was obvious from the data that the orientation and mobility specialist does not teach *only* orientation and mobility skills to the individuals that he serves. If the mobility specialist works in a rehabilitation agency, sometimes he will be expected to provide administrative services and in almost 40 percent of the cases will be involved in supervising other mobility specialists. Almost as frequently as providing supervision, the mobility specialist in a rehabilitation agency will also be asked to provide some type of counseling for his clients and with even greater frequency to be involved in providing consultation to other agencies. In 28 percent of the agencies, he will be required to teach daily living skills to his clients. When the job requirements of agency specialists are compared with those working in residential schools, a very similar pattern is seen. In residential schools, the mobility specialist does less administration and less supervision, but about the same amount of counseling as that required for specialists in rehabilitation agencies. However, as would be expected, he teaches more academic subjects than does the specialist in an agency. In a residential school, the specialist also will teach more daily living skills, but will have much less opportunity to consult with other organizations than if he were employed in an agency.

Expectations of public school administrators

The situation of the mobility specialist working in the public school system differs considerably from that of his counterparts in residential schools or in agencies. He will have much less of an opportunity or need to be involved in administration and supervision. This perhaps reflects the fact that in public school systems, administrators and supervisors are usually members of well-defined, recognized professions in education administration, and the opportunity for a mobility specialist to move into those positions without formal training in those areas is much less than the opportunities in residential schools or agencies. However, in public schools the mobility specialist is expected to provide some kind of counseling, almost twice as frequently as would be expected of him in a rehabilitation agency or residential school. To the extent that counseling is also a well defined profession in the school system, it is surprising that in 68 percent of the possible positions the mobility specialist is expected to provide some type of counseling. Additional studies should perhaps attempt to define what is meant by counseling in this situation, how much counseling is involved, and how it differs, if at all, from what is provided by the regular school counselor. Also, the mobility specialist in public schools is required to teach other academic subjects in 68 percent of the instances, and in 81 percent of the situations he is required to teach daily living skills. Finally, the public school mobility specialist has an opportunity to consult with other agencies in 51 percent of the work situations. The public school mobility specialist, then, appears to need a more diverse preparation than does a mobility specialist in the rehabilitation agencies, and this reflects the administrative structure in which he works. Since there are relatively few visually handicapped persons in any one school district or local education unit, it is apparent that one specialist is hired and expected to provide a full range of services that a blind student might need.

Counseling

Teaching academic subjects

Unrealized expectations

Two trends appear when the duties that are presently expected of a mobil-

ity specialist are compared to the administrator's view of what should be expected. There seems to be a lessening of the expectation that mobility specialists should provide instruction in academic subjects. Presently, 21 percent of the administrators responding did require that kind of duty; however, only 11 percent feel that that should be one of the extra duties of the mobility specialist. A second trend concerns the fact that mobility specialists may be expected to provide travel skills to handicapped persons who are not visually impaired. Presently, 11 percent of the work situations do require this type of additional duty; however, 20 percent of the administrators indicated that this should be part of the responsibility of the orientation and mobility specialist. This, perhaps, reflects a growing awareness that the skills of the mobility specialist are useful not just for blind persons who need to travel independently, but for persons with other handicaps who need assistance in learning this complex skill.

Starting Salaries

☐ One other dimension of the job situations in which mobility specialists find themselves concerns the starting salary for such specialists. It is obvious from the data and from previous expectations that mobility specialists with master's degrees more often start at a higher salary than do mobility specialists with other types of training. Thirty-two percent of the mobility specialists with master's degrees started off in a category in which they would be earning $792-$875 per month. Similarly, individuals trained at the bachelor's level tended to start at salaries that were in the higher ranges, with the most frequent percentages falling in the range of $584-$791 per month.

The Need for Specialists

☐ With this understanding of the present use of mobility specialists and the nature of the jobs that they are asked to perform, it is important to consider what is the current need for mobility specialists. The number of positions that were open as of June 30, 1973, and the variety of situations in which these positions were available are discussed above, as are the projections of possible positions over the next year, three years, and five years (Table 5). One of the major interests of the researchers, however, was to determine the separation between the actual need for mobility specialists, defined by open positions that have currently not been filled, and the theoretical need for mobility specialists, defined by the administrators' perceptions as to how many mobility specialists they could use if all additional funds were available. Fifty actual positions were discovered by the survey; however, the respondents felt that if funds were available, they actually could use 251 mobility specialists. Theoretically, there is a need for the service of five mobility specialists for every actual position that is available.

Projected need

It is useful also to project the numbers reported by the response sample to the entire population. If 48 percent of the agencies for the blind and residential schools had openings for 40 mobility specialists as of June 30, 1973, then the projected number of actual openings was 83 at the time of the survey. Similarly, it could be projected that if 22 percent of the public schools needed ten specialists, then the actual need would be 45 mobility specialists. When the ideal number of mobility specialists is considered, the indicated need for 213 specialists in 48 percent of the blindness programs would suggest an overall need of

463. If the school respondents, representing 22 percent of the population, indicated a need for 38 specialists, then all public school systems would appear to need 172 specialists. Overall, this would suggest that 635 additional specialists would be needed to meet the needs of blind people.

Expanding University Programs

☐ While the current university programs appear to be able to produce enough mobility specialists to meet the actual demands at this time, their output would not be sufficient if enough positions are eventually created to meet the needs of clients. Rehabilitation agencies operating training programs for mobility specialists have in the past claimed that they did so because the universities were not producing enough specialists to fill the positions that were open. The data of this survey indicates, however, that rehabilitation agencies might better utilize their resources and their personnel to generate new slots for mobility specialists and allow the university training programs to expand to meet the needs for specialists as the number of available positions expands.

Expanding services to older blind persons

This need to expand the number of positions is particularly apparent when services to older blind people are considered. The difficulty in providing mobility services to such persons is caused by the lack of resources to pay for such services and the "anti-rehabilitation" attitude concerning older people. One possible solution to this problem is the attempt to have mobility services for older blind people covered by Medicare or by the provisions of the National Health Insurance Act that is presently being considered by Congress. A precedent is already available: physical therapy and speech therapy services are covered by Medicare. If it is eventually realized that the provision of orientation and mobility services has a positive impact on the health status of older blind people and these services can be purchased through health insurance money, the need for mobility specialists skilled in work with older blind people will increase sharply.

The Training of Specialists

☐ Finally, there is the question of how mobility specialists should be trained. In the view of administrators who recruit for orientation and mobility specialists to fill positions in their organizations, there seems to be a very definite preference for university-trained persons. Seventy-six percent of these administrators indicated that when the opportunity for recruitment arises, they would always recruit from the master's degree programs, while 48 percent indicated that they would always recruit from bachelor's degree programs. Of course, the overlap is explained by the fact that some administrators would always recruit from both of those levels. However, only 15 percent of the administrators who responded would always recruit from agency training programs that did not offer a degree specializing in orientation and mobility; therefore, it appears that the appeal of agency-trained persons in general is low. At the other end of the spectrum, only six percent of the administrators indicated that they would never recruit from the bachelor's degree level, only two percent indicated that they would never recruit from the master's degree programs, and yet 44 percent indicated they would never recruit from non-degree programs offered in agencies serving the blind. One implication of these conclusions is that efforts to shorten the university training programs would not be welcome or well received by administrators responsible for hiring.

Professional standards

It is also apparent that efforts to promote the acceptance of professional standards in this field are successful since 46 percent of the agencies that deal primarily with services to visually handicapped people now require that their orientation and mobility specialists be certified by the American Association of Workers for the Blind. Although 40 percent do not make this demand, it is felt that the continued availability of mobility specialists who are able to meet certification requirements will further aid in the acceptance of the standards.

Conclusions

☐ In summary, it appears that there still are positions available for orientation and mobility specialists and that the current university programs must continue to operate in order to meet the present and future needs. If we ever begin to provide mobility training to all of those persons who need it, the demand for mobility specialists will be five times greater than the current output.

The preference for university-trained mobility specialists is strong and this preference appears to be growing. One of the obvious needs for such broad-based training is the variety of additional duties that are required of the mobility specialist. However this trend is judged, the survey results clearly indicated that administrators expect orientation and mobility specialists to do more than teach independent travel. This, of course, has implications for the type of training that is required.

While it is not expected that the documentation provided by this study will end the controversy surrounding how mobility specialists are used and how they should be trained, it is hoped that this data will contribute to its resolution on the basis of factual information and not personal bias.

Acknowledgments

Sincere gratitude is expressed to persons who assisted in the development and implementation of this study. They include Ms. Cynthia Kistler, orientation and mobility specialist, Vision Center, Columbus, Ohio; Dr. Godfrey Stevens, professor, University of Pittsburgh; Mrs. Eleanor Dym, assistant director, Knowledge Availability Systems Center, University of Pittsburgh; and Mr. Paul Peters, teaching fellow, University of Pittsburgh.

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Index for Volume 68 of the New Outlook (1974) Will Be Included With the January 1975 Issue

A Special Short-Term Evaluation/Training Program for Deaf-Blind Adults

DAVID L. SEARCH, M.R.T.

Mr. Search is an itinerant rehabilitation teacher with the Michigan Division of Services for the Blind.

ABSTRACT: The three-week summer program for deaf-blind adults had these objectives: to evaluate training potential as well as daily living and mobility skills of the client, to provide instruction in daily living and mobility skills, and to teach staff members to set up training programs for the deaf-blind. Staff and consultants felt that the program succeeded. In addition, recommendations for further education and/or training or vocational placement for individual clients were made and, in most cases, implemented to some degree. As a result of staff training, there is now a sizable number of personnel to provide services to the deaf-blind.

A three-week summer program for the deaf-blind held at the Michigan Rehabilitation Center for the Blind (MRCB) in 1972 has had positive results for both staff and students. It was brought about through the cooperative efforts of the Michigan Division of Services for the Blind, the Greater Detroit Society for the Blind, the National Center for Deaf-Blind Youths and Adults, the Detroit League for the Handicapped-Goodwill Industries, and Western Michigan University.

Staff

☐ The staff drawn from these institutions included seven instructors, only two of whom had had previous experience with the deaf-blind. One had a background in working with deaf persons and was able to help the other instructors in the area of sign language communication; other staff members had worked only with blind persons. However, there were also consultants and part-time instructors experienced in working with deaf-blind persons who were present during all or part of the program. I acted as full-time program coordinator.

Objectives

☐ The objectives of the three-week program were as follows: 1) to evaluate the training potential of the deaf-blind client, 2) to evaluate the daily living and mobility skills of the clients, 3) to provide instruction in daily living and mobility skills, and 4) to help teach specialists from the involved state and local agencies to set up training programs for deaf-blind clients.

Students

☐ Seven students, four women and three men ranging in age from 21 to 55, were chosen from persons referred to the state agency. They came from a wide variety of living situations and had various communication abilities and residual hearing and vision: two of the students were not able to communicate verbally, nor did they use the hand manual alphabet. (As the only mode of communication was pantomime, it was more difficult to evaluate and instruct them than the other students.) In addition to pantomime, communication techniques included the hand manual alphabet, signing, braille (tell-atouch), lip reading, and oral. Vision ranged from total blindness to 20/30 with 10-degree fields; hearing, none to fair with bilateral hearing aids. In education they ranged from fifth grade to three years of college. Several had nor-

Communication

mal or near normal speech. One of the students was epileptic, another was a diagnosed schizophrenic, and several were judged to be retarded. Some of the students were more willing to accept ideas than others, and each student had individualized goals. All students received an audiological exam and one student was unexpectedly found to have significant residual hearing.

Classes

☐ The classes included mobility, braille, activities of daily living, communication skills, and adjustment counseling. The day's schedule was made up of three one-hour-and-45-minute classes because of the necessarily slow instruction. (However, as will be noted later, some of the teachers thought in retrospect that the classes were too long. Many of the clients were not used to the emotional or physical demands of attending daily classes.) With seven instructors and seven students, it was possible to conduct all classes on a one-to-one basis, imperative in a program of this type.

Activities of daily living

In the area of activities of daily living students were evaluated and instructed in personal grooming, household cleaning, sewing, coin identification, eating techniques, ironing, telling time, and games for leisure time activity. Food preparation was a separate class. The communication skills included braille, typing, penmanship, finger spelling, sign language, and basic language skills. Orientation and mobility instruction included indoor and outdoor cane techniques, protective techniques, and use of a sighted guide. The students worked toward independent travel. Adjustment counseling provided a chance for students to talk about problems they were having as a result of their handicaps. They could also discuss their current reactions to the new training since use of new skills sometimes involves a change in attitude.

Communication skills

Orientation and mobility

Adjustment counseling

Recreation

As well as the course work, the students took part regularly in recreational activities. They went tandem bike riding with staff members, made home-made ice cream, learned to use exercise equipment in the gym, played table shuffle board, and used the lounge and library. Outside activities included a shopping trip to the local mall, a visit to a fire station, a trip to the Five Senses Garden at the John Kennedy School, a picnic, and swimming at the YMCA. Some students were also able to attend church, with community volunteers providing transportation and translating the service into sign language.

Placement Recommendations

☐ At the end of the three weeks the staff was able to make individualized recommendations for each of the students. Two students were referred to the Clovernook Home for the Blind for vocational training and placement. (One was accepted and remains employed there, collating braille magazine pages; the other resides in a nursing home while attempts, thus far unsuccessful, can be made for other vocational training.) A Catholic nun who attended the program returned to her convent. A student at Western Michigan University was encouraged to finish her senior year. (Since graduation the state agency has assisted her in obtaining work in a laundry and a variety store. Presently she is unemployed due to a lay off.) One student had previously been referred to the National Center for Deaf-Blind Youths and Adults. The staff supported this referral and the student has entered the Center. Another student returned to her previous living situation at a boarding home, but is involved in part-time work folding bandages at the Red Cross. The last student was re-ad-

mitted to MRCB for additional adjustment and mobility training. As a result of a thorough hearing examination, he has been fitted with bilateral hearing aids and receives language and auditory training.

MRCB Involvement

☐ The involvement of the Michigan Rehabilitation Center for the Blind went beyond providing two of the staff members, class, and dorm space. The help and cooperation of MRCB staff not directly involved in the summer program, contributed to its success and provided an opportunity for them to familiarize themselves with the deaf-blind. Credit must also be given to the regular blind students attending MRCB, who, as a group, went out of their way to interact, communicate, and socialize with the deaf-blind students. Some of the students learned the hand manual alphabet in order to communicate with the deaf-blind client. Others used palm printing. Several blind students volunteered to help out with recreation activities involving the deaf-blind.

Benefits to Staff

☐ There were also benefits for the program's staff members. Those who did not know the hand manual alphabet learned it before the program started. During the program they learned some sign language and how to adjust teaching techniques to individuals with dual handicaps. The degree of expertise picked up by staff members with minimal experience with the deaf-blind was just short of amazing.

Critiques

☐ At the end of the program, the personnel were requested to write a critique. Most mentioned staff differences which occurred periodically throughout the program. All felt that this problem could have been prevented or at least minimized if there had been additional time to meet and interact prior to the program. Several instructors felt that the classes were too long and recommended a period of one hour and 15 minutes or at the longest one hour and a half. Most agreed that a deaf-blind consultant was not utilized as fully as he could have been. However, the staff did indicate that for them this program was most educational and meaningful.

As coordinator I agree that insufficient time was scheduled for staff orientation and training and that this should be remedied in any future program. Staff overtime, averaging 60 to 80 hours per week, clearly demonstrated their dedication and interest. However, it would be unreasonable to demand or even expect this in any future program. I might have requested training non-professional volunteers; however, as a result of the recent training given the entire MRCB staff, including non-teaching personnel, only limited use of volunteers would be necessary. Finally, although such a program presents excellent educational opportunities for interns, it is unfair to expect them to handle independently, without supervision, a teaching assignment with deaf-blind clients.

Summary

☐ In summary, the program was unique in that a short-term evaluation and training program for the deaf-blind was provided through the cooperative efforts of a state agency (including field and rehabilitation staff), private agencies, and the National Center for the Deaf-Blind Youths and Adults. Despite the short length of the program, the staff and consultants felt that they were able to evaluate the training potential as well as the current level of functioning of the deaf-blind clients. It was also felt that their skills in the various instructional areas had significantly improved. Individual recommendations

(Continued on page 453.)

The Classroom Application of Behavior Modification Principles for Multiply Handicapped Blind Students

ABSTRACT: Three studies of multiply handicapped blind students enrolled in a special class located in a residential school for visually handicapped children are reported. The application of behavior modification techniques was designed to help the students: a) decrease bickering comments and acquire positive social comments; b) increase independent seat work responses including braille word writing, placement of pegs in a peg board, and placement of cubes in a cubarithm, and c) learn a mobility skill. In each case the subjects were successful in changing responses in their behavioral repertoire when a behavior modification program was implemented.

PATRICIA A. GALLAGHER
RUTH E. HEIM

Ms. Gallagher is associate professor of education, University of Kansas, Kansas City; Ms. Heim is special education teacher, Kansas State School for the Visually Handicapped, Kansas City.

How are appropriate social behaviors taught to several blind mentally retarded adolescent students who are described by school personnel as "at each others' throats whenever they are near each other"? How do the teachers help children work at a faster rate once accuracy has been accomplished? How can a high-school-age student be taught to find his own way from the dormitory to the dining hall to the classroom building when he has not learned to travel the school grounds in four years?

Translation and utilization

Educational researchers are cognizant of the work conducted in the learning laboratories and the relevance of the research findings for teachers. The challenge for educators is the translation and utilization of such findings in their efforts to bring about change in students' behaviors. Since behavior learning theory has been translated into practical methods, the classroom environments for normal and handicapped children are becoming the settings where action research is employed. The emphasis has shifted from traditional approaches toward a functional analysis of behaviors based on behavior learning theory.

Behavior Learning Theory

☐ This theory proposes learning principles and procedures which are frequently identified with the term "behavior modification." The theory postulates that all behavior is learned. Attention is centered on observable and measurable behavior rather than the explanation of the causes of behavior. Although divergence in the application of the approaches and techniques exists, the basic principles are few. Behavior modification involves: a) the identification of the overt behavior to be modified; b) the recording of this behavior in the natural setting; c) the identification of the environmental variables which could be programmed into a contingency or arrangement designed to increase, decrease, or develop the identified overt behavior; d) the establishment of a final goal; and e) the consistent and systematic application of the identified variables which could change the behavior.

Successful applications of behavior modification

Children who exhibit typical and deviant behaviors have been observed and studied by an array of educators. Studies have demonstrated the effectiveness of behavior management procedures designed to assist handicapped children in the achievement of academic and social behavioral gains. Teacher-supplied

reinforcers, for example, praise and smiles, or tokens exchanged for reinforcers, such as money, food, and special privileges, have been utilized as reinforcement contingencies to manage individual and group behaviors. Knowledge accumulated in these investigations has resulted in the formulation of diversified procedures designed to modify the child's behavior if unacceptable, increase appropriate behaviors, and initiate the development of new behaviors. McKenzie, Clark, Wolf, Kothera, and Benson (1968) modified the academic behaviors of learning disabled children by arranging teacher attention, recess, and weekly grade reports as reinforcers for academic progress. Four mentally retarded children developed and maintained instruction-following behavior as a result of a token reinforcement system (Zimmerman, Zimmerman, & Russell, 1969). Six deaf children were able to remain in their chairs during class instruction time when reinforcement consisted of free time (Osborne, 1969). Mira (1972) reported successful behavior management programs designed to remediate the runaway negativism and hitting problems of young deaf children. One pre-school deaf child's refusals to wear a hearing aid and another child's removal of her ear molds were modified by their mothers. Ross (1967) strongly urges teachers to engage in mental health practices by utilizing the behavioristic approach and designing classrooms where the role of the teacher is that of a therapeutic educator. The paramount importance of this approach is that teachers are provided with procedures to actively participate in helping the student. The reported studies, though brief, are part of a growing number which lend support to teachers who attempt to arrange environmental contingencies and reinforcers to change behavior.

Mentally retarded children

If learning principles are to be used in a "real world" atmosphere, the modification procedure should be conducted in classrooms by teachers even though all variables cannot be controlled. Portions of precise laboratory controls are sometimes sacrificed, but teachers have found a consistent and systematic approach which enhances their students' growth and development.

Classroom application

☐ Although numerous studies have demonstrated the efficacy of behavior modification techniques in classrooms, there is a dearth of literature relevant to the implementation of this approach with blind children or multiply handicapped blind children, that is, children with such additional handicaps as emotional disturbance, mental retardation, or brain injury. The following studies demonstrate how multiply handicapped children were able to achieve independence in specific responses when behavioral techniques were used. The subjects described were totally blind, had additional handicaps, and were assigned to a special classroom located in the Kansas State School for the Visually Handicapped.

Multiply Handicapped Blind Children

Two students, Frank, a 15-year-old, and Harry, a 13-year-old, were friendly and cooperative with their peers; however, their chronic bickering behavior with each other was annoying to the staff members. The boys entered and departed their special classroom "snarling" and hitting or pinching each other. The latter behaviors were subsequently changed to verbalizations thus adding to their existing repertoire of inappropriate behaviors. One day, when everything else had been said, Frank retorted to Harry, "Oh, Harry, I can't even stand

Chronic bickering

the way you breathe!" Since previous efforts to correct this bickering had failed, the teacher decided to implement a behavior modification program to promote the exchange of positive social comments.

Two-phase plan

The teacher did not feel that the students could respond to the decrease of one response (inappropriate verbalizations) and the development of another response (appropriate verbalizations) simultaneously; therefore, she decided upon a two-phase modification plan. In Phase I inappropriate remarks were to decrease and in Phase II appropriate remarks were to be established through a token reinforcement system.

Baseline

Baseline, the recording of behavior before a planned intervention, was initiated. The frequency of the bickering was counted during a 40-minute class session for six days. During this baseline period the usual methods of attempting to control their behaviors were continued. The bickering behavior was defined as each antagonistic verbalization which occurred between the two boys. The teacher recorded each occurrence and the boy who initiated the behavior. After an antagonistic remark was recorded a five-second interval had to elapse before a count was again tallied.

The frequency of appropriate remarks was also recorded during the baseline. Appropriate remarks were recorded if: a) the boys were able to enter the room and sit at their desks without making a bickering comment; b) either boy should politely answer a question asked by the other; c) either boy did something helpful for the other; d) either boy initiated a kind comment to the other boy.

An unforeseen variable

To the teacher's astonishment on the afternoon of the sixth day Frank walked into the classroom and announced, "I've decided all this is foolish and I'm stopping." The bickering was sharply reduced to a minimum! His sudden and unanticipated change of behavior was an excellent example of the "real world" variables which can alter an originally planned modification program. Phase II was immediately introduced since Phase I ended before it began.

Contingency and Reinforcement

☐ During the baseline period the teacher searched for ideas with which she could conduct Phase II in a relevant way for the boys. She designed a record-keeping system which would be meaningful to the boys. Towel racks with suction cups were fastened to each desk and tokens, small plastic clothes pins, were purchased. The boys were told that they could earn a clothes pin for each appropriate remark they made to each other. On any day when they received a combined total of five clothes pins they would share a can of soda pop. Since it was a cooperative effort each boy had to earn at least one of the total. During the first seven days of Phase II the subjects earned less than five tokens. The teacher debated whether the combined five-token system was beyond their ability or whether the boys had misunderstood how they were to earn tokens. She decided to restate the contingency and reinforcement in a clearer and firmer manner. Following this definitive explanation the boys began to earn their combined total of five pins.

Results

During the baseline period Frank's bickering comments ranged from 14 to 20 with a mean of 17.3 responses and Harry's bickering comments ranged from 12 to 19 with a mean of 15.6 responses. On the six-day baseline record

the boys had a combined average of 33 bickering remarks and no appropriate remarks to each other.

When the subjects were required to exchange appropriate comments during Phase II, they were able to do so minimally for the first seven days. After the contingency and reinforcement were restated their appropriate verbalizations ranged from three to seven with a mean of 5.1 responses during the next eight days. The boys did not exchange bickering comments during Phase II.

Data indicated that a cooperative token reinforcement arrangement was effective in promoting the acquisition of appropriate verbalizations between two blind students. Although this project was interrupted with an unforeseen variable, one boy's self-initiated decrease of inappropriate comments, the teacher was effective in directing the boys in achieving the final goal, the exchange of positive social comments.

Increasing Productivity

☐ Three subjects, Frank, Eugene, and Harry—ages 15, 11, and 13, respectively —had learned to complete simple independent seat activities; however, they consumed an inordinate amount of time to perform their tasks. The teacher had employed a variety of techniques to increase their productivity but the effects if any were short term.

Procedure

A two-phase modification program was designed to increase the number of students' work responses. For each phase a 20-minute work period was established and divided equally into two conditions, Condition A and Condition B. In Condition A the boys were not aware of the amount of time assigned to their seat work activities; in Condition B the students were aware their work was being timed with a kitchen timer. During Phase I, Condition A preceded Condition B, whereas in Phase II the sessions were reversed. A 14-day vacation period occurred between the phases when the regular academic program was interrupted.

Three tasks

The tasks were defined as follows: Frank's response consisted of brailling different words from his daily reading lessons; Harry placed a designated cube (the letter "c") in the cubarithm; and Eugene placed pegs in a peg board. In Phase I, Condition A, the teacher instructed the students to do as many single activities in their tasks as they could until she announced "Stop." Unknown to the students this work session was timed for ten minutes. Then Phase I, Condition B, was introduced. A kitchen timer was then placed on the teacher's desk where the timer's sound was audible to all three students who were seated at their desks. The subjects were instructed to respond to their own task and work as many single activities as they could until the timer rang. After nine days Phase I of the program was interrupted by the 14-day interim period. When Phase II was initiated the conditions were reversed. That is, the students were instructed to do their work until the timer rang. Then they were asked to continue their work until the teacher said "Stop."

Results

Harry's mean responses with the cubarithm modification program during Condition A (unannounced time) in Phase I and Phase II were 8.1 and 13.2 respectively; however, during Condition B (announced time) the mean responses were 18 and 19.2. Eugene's mean responses (peg placement) during Phase I and Phase II (unannounced time) were 5 and 5.4 respectively; whereas,

in the announced time conditions of Phase I and Phase II the mean responses were 14.2 and 10.8. Frank's mean braille writing responses for the unannounced time conditions for Phase I and Phase II were 2.0 and 1.5; however, in the announced time conditions the mean responses were 6.1 and 3.5.

Discussion

Three special blind students responded favorably to an inexpensive piece of equipment, a kitchen timer, which was manipulated by a teacher to help them increase their rate of independent seat work activities. Changes in the students' performance from the beginning of the modification program indicated that the work behavior increased when the timer was present. The data indicated that the students improved their work production from 140 percent to 300 percent during the announced time condition. The improved performance could possibly be attributed to the timer's sound which was a continuous reminder for the students' responses. Since knowledge of time preceded and accompanied the work responses, the timer could have served as a reinforcer or stimulus. Further investigations could determine this aspect. It was encouraging to observe that the diverse work behaviors of three different students were successfully altered when an audio variable, a kitchen timer, was added to the classroom conditions.

Teaching Simple Mobility

☐ Frank, a 15-year-old student enrolled in the school for four years, was unable to walk independently between the campus buildings. He relied on the assistance of others to reach a destination. When classes were dismissed, Frank stood by the building doorway, wringing his hands, swaying his head, and verbalizing fragmented conversations with himself. As students left the building he would try to grab someone's arm or walk behind a group of children, apparently following their conversation as a clue to the walking direction. However, this latter behavior was futile because he walked too slowly and was soon stranded on a pathway while the others had already reached their destination. Alone on the path Frank's hand-wringing, headswaying, and verbalizations resumed until some adult or child assisted him. Both his houseparent and teacher expressed their concern about his deficient mobility skills, but they were not able to give Frank the amount of help he needed since each had responsibilities during the change of classes. Assistance was requested. A behavior modification program was instituted to help Frank "learn his own way" across the campus.

Procedure

After observation of Frank's behavior and discussions with the houseparent and teacher the following variables were determined. A path frequently used (between the school building and the administration building) was selected. The configuration of the path, measuring 104 yards, resembled a question mark. Frank was accompanied in travels over the designated path, one-way trips only. Clues, such as the change in ground texture, the downward slope of one section of the sidewalk, grass-sidewalk impressions, "squaring off" areas, and sounds of street traffic, were described along with how these could provide cues to the student. A weekly instruction period was scheduled for a time of day when campus traffic was minimal. The planned modification program of praise, feedback, and reinforcement was introduced.

Contingency and reinforcement

Frank was instructed to walk along the path, develop his own set of clues,

and omit all social conversation, one of his frequent and favorite activities. The investigator followed four feet behind and praised Frank's mobility behaviors and ignored any social comments. Praise, for example, "good," "great," and "o.k.," was initially planned for every four footsteps and designed to give Frank some confidence in his own ability to develop an independent mobility skill. After Frank had traveled over the path and had reached his destination, the administration building, he received feedback, a report of the time involved, and reinforcement, a five-minute conversation with the investigator. Since Frank took small steps, the praise also served as feedback because he could not deviate from the path in four steps. When progress was visible the amount of praise was reduced and mobility clues were given. If necessary Frank received major aid—physical assistance, such as the retracing of steps—or minor aid—physical assistance, such as a tap on the shoulder, or verbal assistance, such as "left." The physical distance between Frank and the investigator was gradually increased, eventually reaching a distance of more than 50 yards.

Results

The program was in effect for 40 sessions. During the first seven instruction periods a mean of 71 praise-feedback comments and a mean of two major assists were given as Frank walked the path. During this period the mean travel time was 10:05 minutes. On the eighth day Frank was instructed to walk the path independently. No praise was given by the investigator. On this day he traveled the path in 17:12 minutes and required one major assist when he passed by the building entrance. The removal of praise, feedback, and reinforcement on the eighth day indicated that (a) his walking time was slower than baseline; (b) the absence of praise, feedback, and reinforcement had a negative effect on his walking time; and (c) praise, feedback, and reinforcement were still needed in the program. During the last seven days of the modification program a mean 2.4 praises and one minor assist were given. The mean travel time was 6:31 minutes, a reduction of 3:34 minutes from the time when the project was initiated. The mean travel time for average students was 4:12 minutes.

Discussion

Frank was able to learn a new skill, independent travel between two campus buildings, through the systematic application of behavioral principles. Furthermore as the program progressed Frank could laugh at his own errors, retrace his steps when he deviated from the path, and widen the physical proximity of the investigator from four to 50 yards. The results may be due to a combination of factors. Frank had a specific goal and a special program in which he received praise, feedback, and reinforcement until he was able to achieve a level of independence. The results were encouraging. The study illustrates the importance of working with a student on his instructional level, of having well-defined goals, and of employing behavioral techniques to promote growth in travel independence.

Implementing Programs Elsewhere

☐ The conditions under which these successful modification projects were conducted can be easily established in other schools and classrooms for blind children. The teacher identified, recorded, and modified behaviors while conduct-

ing the regular classroom program. In each case the student's observable behavior was the key to the implementation of an individualized program.

Perhaps teachers of the visually handicapped could greatly increase the efficacy of their work with individual children by translating and implementing behavioral principles. This approach, systematically applied, could result in the acquisition of appropriate student responses and workable solutions for deviant behaviors.

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A Special Short-Term Program for Deaf-Blind Adults—*Continued from page 446.*

were made for future services, a majority of which will and are being provided through or by the Michigan Division of Services for the Blind.

Later seminars

Since the completion of the deaf-blind program, two staff members from the Michigan Rehabilitation Center for the Blind have attended two-week seminars at the National Center for the Deaf-Blind Youths and Adults, a seminar was held at the MRCB, and further instruction involving work with the deaf-blind was provided to the entire center and field rehabilitation teaching staff of the state agency. At the invitation of the state agency, several private agencies for the blind within the state sent staff people to the seminar.

Better services

These efforts have produced a significant number of personnel who can work with the deaf-blind, particularly within the state agency, and the MRCB itself is able to accept and provide services to the deaf-blind client. There is a serious committment by the state agency to provide services for this historically overlooked group of people. Indeed adjustment training for the deaf-blind in Michigan has never looked brighter.

The Other 128 Hours a Week: Teaching Personal Management to Blind Young Adults

MARY MORRISON

Ms. Morrison is a personal management instructor, Bureau of Blind Services, Dade County Cooperative School Program, Miami, Florida.

ABSTRACT: The blind young adult has been given an education and prepared for the job market but he has not been taught the skills necessary for independent living. Parents often assume the blind son or daughter will always live with the family and fear that injury will occur if the blind youth attempts to perform a household task himself. These young people are often not even oriented to areas (such as the kitchen) of their own homes. Areas of personal management discussed include signature writing, shopping, money management, cooking, and using a calendar.

One bright June morning I was to meet a new client, one whom I had heard much about. He was reported to be witty, talented, and bright, an honor student at one of our state universities. And so I was dreaming that this morning's instruction would be easy, that all the usual problems would not have to be overcome this time. It turned out that I was partly correct. He was indeed witty, talented, and bright. But as I was ushered into his family's apartment, I felt a strange uncertainty: Ray was obviously quite upset about something.

"Mrs. Morrison, I hear you can be trusted," he began. My mind began to race. What has he done? "Promise me that you'll never breathe a word of this outside this room." Drugs? Extortion? "Well . . ." I hesitated, not wanting to commit myself. Finally he could contain himself no longer. "I can't . . . I can't make a peanut butter sandwich! Can you imagine a 21-year-old man who can't make a peanut butter sandwich?"

That day Ray learned how to make a peanut butter sandwich (in almost ten minutes) and how to pour his own cereal into a bowl himself. His mother had been leaving it in a bowl in the refrigerator for him with the fruit already on top because she didn't think he could do it himself. By the end of the summer Ray was cooking his own breakfast and doing a score of other things for himself for the first time—at age 21.

Personal Management

☐ I am a personal management instructor: that is, I teach young blind people how to live independently. I want to tell you about my job because I find it fascinating, but more importantly because the situation of the congenitally blind young people I work with needs to be articulated, faced, and remedied.

Caseload

My caseload consists of young adults, 14 to 22 years old, in metropolitan Miami. Some are partially sighted, some multiply handicapped, and many are totally, congenitally blind, mostly from retrolental fibroplasia. My job is a potpourri of teaching assignments, all aimed at independent living for our clients. I would like to tell you about four that have been particularly challenging for me and for them.

Signature

☐ One of my first discoveries was that only one or two of our totally, congenitally blind clients could sign their names. The others explained, "No one ever taught me how—not both my names," or "I remember being shown loops

and points once or twice several years ago," or "I couldn't see the need when I was younger and I've had no one to teach me since I've been out of school," or worst of all, "My father doesn't think I need to be able to sign things myself. He'll do it for me." One junior in college came to me angry and upset. "I'll bet I'm the only student at that university who had to sign an 'X' on the registration blank." By the next semester he wrote his signature—large, and still with an unreliable "y"—but *his* signature. Learning (and teaching) signature is not exciting, but not one of my students said he did not want to learn, even at the expense of hours of learning: "D"–"Do"–"Dona"–"Donal"–"Donald." (The only method I've found that works.)

But why, I asked, without receiving an answer, hadn't these 20-year-olds known how to write their names for years? (And I speak without undue criticism of any one agency or school system for my clients grew up in many states and have attended a myriad of public, private, residential, and non-residential schools.) Could it be that the idea of these young people endorsing their own paychecks, for example, was never really taken seriously by anyone? That dependence forever was assumed?

Grocery Shopping

☐ One of our more challenging projects (and one at which I have had little success, I'll have to admit) is grocery shopping. Most of our clients had been to the supermarket and most had done nothing but push the cart. In trying to teach the clients how to write shopping lists to save time and trouble for the person helping them shop, the idea of a floor plan where all the produce is in one section, the meat in another, etc. was a novel concept for most. Mundane information, for example, that cottage cheese and milk are often located in the same department, had to be learned from the beginning. My difficulty in teaching this entire area stems from my continually forgetting what the "beginning" really is. One college junior, although he did know that milk and butter would be found together, could not tell me how to buy butter because he did not know that butter usually comes in sticks in a box. (I did not even dare mention soft margarine since it is not used in his home.) His mother always handed him his bread already buttered, and at college he did not use butter because he knew he did not know how to spread it! Others did not know that eggs come 12 in a carton since they had only seen eggs in the egg cases in their home refrigerators.

Making a Purchase

☐ I took some 15-year-olds Christmas shopping. Two of them, partially sighted, did not know that one does not have to have exact change to buy something in a store. They had not paid a clerk for anything in their whole lives.

Shopping problems

I will refrain from explaining in detail any other of my fiascos at teaching shopping. I kept forgetting that everyone does not know that potatoes and onions come by the pound and sometimes by quantity, oranges by quantity, sometimes wrapped, sometimes not wrapped, that there are different types of apples, different kinds of potatoes. And I'm not even out of the produce department! For example, what about remembering to explain that there is instant oatmeal, three-minute oatmeal, and regular oatmeal, that there are different kinds of noodles, that some ade mixes are sweetened and some are not? The problems arise when the person offering help asks, "What kind of oat-

meal do you want?" and our client answers, "What do you mean?", so he is given any kind; then he doesn't know how to cook it because he only knows one way to cook oatmeal. It is the same with most things on his list, so the confusion mounts. He has little idea about the types of packaging, less about quantity and weight, and still less about prices.

Prices

Prices have been a mystery to all but two of my clients, both of whom had been forced by circumstances to live alone. "How much does a quart of milk cost?" I invariably get "five cents" or "10 cents" for an answer. "How much for a pound of hamburger?" (I put a pound in their hands so they have some idea how much I mean.) "Fifteen cents?" "Five dollars?" All their lives everyone around these young, bright people did not realize that the hard facts of personal economics were anything a blind person needed to worry about—as if blindness precludes having to buy groceries or making a budget. The "someday" when they need to know such things has arrived and a lifetime of unlearned details inundates even the persons most determined to be responsible for themselves.

And of course this money problem extends to all areas of life. Yesterday I asked a 21-year-old man of average intellect, "How much will you have to earn when you get a job to buy yourself groceries, pay the rent, provide transportation, etc.?" "Oh, 15 dollars a week," he said. At the end of our lesson he had a different answer! Another young man told me that if he had an average paying office job he would earn about $2000 a year. And he is a "B"-average college student!

Banking and Taxes

☐ I have found that my clients rarely know about taxes or about bank charges, about savings accounts and interest, or in fact, what is written on a check or how to endorse one. You can imagine the problems when fate suddenly thrusts these people into independence—checking accounts grossly overdrawn, finding out that paying rent is not optional, just giving money to strangers and hoping that they will pick out the right thing and not having the slightest notion what sort of change should be expected, not doing any long-range saving or planning. The time the clients need to know all this is *now*.

Cooking

☐ The first lesson for all the students to whom I have taught cooking has had to be how to turn on the stove, often in homes they had lived in for a decade. This means, of course, that they have never even boiled water (not that that is the easiest thing to do), at least not at home. A few have had cooking training at residential schools, but with unanimity the totally blind report that the partially sighted wanted to do the bulk of the cooking in class and that they let them do it.

Lack of experience

But let me back up to the beginning. In several cases students had to be shown where the stove was before being shown how to turn it on. (Most of them know the location of the refrigerator but one young woman, a high school graduate, did not even know *that*, because her mother always brought her anything she wanted. "Of course," said her mother, "she's only been home for summers and vacations for the nine years we've lived here.") Needless to say the cupboards in these kitchens are veritable wonderlands of mystery, with not one of the clients knowing where exotic objects like pots and pans

could be found in his own home. Can you imagine a 21-year-old sighted man telling you that his mother did not allow him to look in his kitchen cupboards and cabinets?

Problems

To see what problems such clients face, let us take learning to heat a can of soup, for example. After learning how to turn on the stove and looking in the cupboard for a pan, we have a short lesson on what a pan is, as opposed to a skillet, or a cake pan, or muffin tin—all unknown objects in nearly every case I have taught.

The amount of information that we sighted people have gained from hours of watching meals being cooked is quite astounding. When we need to, we bring out such information as pans for cooking on top of the stove are usually deep with handles, while a cake pan, for instance, is a very different thing. Such fundamental things are unknown to the vast majority of our congenitally blind clients.

Can openers

Now, I believe, we are up to the can openers. I am beginning to get the impression that every home in America has a broken electric can opener; but putting that aside, each can opener does seem to have a special trick to operating it. And, nearly without exception, the blind young person is not even allowed to try to use it. It has never been clear to me what families think electric can openers will do that is so heinous. (Have you ever heard of anyone being critically wounded by an electric can opener?) In any event we turn to the manual can opener that mother finds in the back of some drawer and then we run into the "strength" problem. Opening a can requires strength.

Lack of strength

I can immediately think of five young people on our caseload who are not considered to be handicapped other than by their blindness, who cannot lift a full two-quart pitcher to pour from it. I first learned this when I naively asked a 21-year-old college student to pour a cup of coffee from a fresh pot on his stove. Not only did the heat terrify him, he actually could not lift the coffee pot off the stove! Why? He and the others never lift anything! They do not exercise. They do nothing but go to school (which exempts them from physical education), go to church, and watch television. Their arms are limp. So we have to go back to the beginning with pitcher, partly full, with cool water, and learn how to pour.

Fear of injury

Now that we have opened a can with difficulty, have the soup in a pan that we have located with difficulty, and have turned on the stove with wonder, we get to the "fear of injury" problem. And this is a big one. "I can't take that hot soup off the stove. I'll burn myself!" This is a reasonable attitude for a blind person to take when everyone he has met in his whole life has said, "You'll burn yourself." "Well, how do you suppose you'll get the soup off the stove if you won't even try to use hot pads and lift the pan?" (After I have made sure he can lift the pan.) Complete silence follows. Then: "Well, I guess I'll have to eat it cold," or "My sister will do it for me." I finally learned to ask clients what they thought would happen if some accident did occur and somehow they did burn their fingers. The idea that it probably would be a very minor injury was startling. "You'll burn yourself!" had been such an ominous threat that no questions had ever been asked. When I suggest that

sighted people burn their fingers and live, usually continuing what they're doing, the clients are amazed.

I remember one day when a 20-year-old college junior was taking a cake out of the oven. He was wearing oven mitts and yet as soon as his hands touched the pan, he started yelling, "I'm being burned!" I took the pan from him, then started questioning: "Where does it hurt?" "It doesn't hurt." "Do you have a blister?" "A blister?" I suddenly realized that he thought that feeling heat was the same as being burned. He had never been burned in his whole life. He did not even know what it was.

Spilling

Then there is the "spilling" problem. "But what if I spill it?" "What if you do?" Silence. "Won't you just clean it up?" Then I realize, of course, he has never cleaned up a mess before. All spills have been greeted by everyone jumping up to wipe up whatever it is with an "I-told-you-you'd-spill-it" in the air. "Do you realize that *everyone* spills things occasionally?" I say. "Even you?" they ask, surprised. Maybe I should not admit this, but in one young man's home I intentionally dropped an egg on the kitchen floor and calmly cleaned it up because that is what he needed. He needed to see that spilling is not next to godlessness and that one did not need to have a nervous fit and quit working if something unexpected happened. In another home I said to the mother, in front of her son, "Dick doesn't think you ever spill anything." She laughed and told him about a whole bowl of raw cake batter she had dropped only two days before. Dick was astonished, completely astonished. He had never before talked to his mother about what she does in the kitchen.

The most difficult thing for the clients to learn in cooking is knowing *when* one has spilled something and how to clean it up. It is especially tricky to explain such things as batter dripping from a spoon or how flour flies through the air. We try to use as few utensils as possible to save pouring, a great problem, especially when one is not strong enough to hold a mixing bowl in one hand and push a spoon with the other. Mixing with the fingers really works best on many things because it gives the cook the most control over what is happening and adds data to the client's memory bank. For instance, one 21-year-old woman, upon breaking a raw egg into her hand to separate it, exclaimed, "Why, the yolk is round!" A small thing to know? Yes, but one more piece of information to put the world together and what a strange idea of an egg she must have had!

Basic steps

Every step has to be learned. "Mix the batter," I say. "What does that mean?" he asks. Then I'm caught again. "Stir it," I try. Sometimes that rings a bell. In most cases demonstrations are necessary, because I am talking about something totally new. Only one or two students have known that in mixing, for instance, one has to move the spoon around the sides of the bowl at least occasionally to get the batter that sticks there. A small thing, you say? I agree—a very small, basic thing that most elementary school children would understand easily and just one more detail of ordinary life that has escaped our clients. Most of them have never seen cake batter at all and are filled with awe when the batter turns into a cake. "So *that's* how it's done!" they say.

One day I went to teach a client cooking for the first time and we quickly

learned orientation to the oven and a few other basics. We were to make oven-fried chicken (a good initial thing to make because it is easy, uses the oven, and most families consider it a fantastic accomplishment). "Wash off the chicken, Larry," I said and seeing that he had located the sink, I turned to reassure his mother that everything was going to be fine. When I turned around, Larry was washing off the chicken all right—with soap and hot water! Logical? Yes, of course. He had never known "wash" to mean anything other than using hot water and soap. I was caught again giving vague general directions.

One parent said to me, expressing what others have thought, "We thought that if anything happens to us (unspoken: "David will live with us until we die. He wouldn't dare dream of independence."), David could just cater food or eat T.V. dinners. He doesn't need to know how to cook." This was said by the parent of no multiply handicapped invalid, but of an above-average junior college student! Just imagine a 20-year-old man being told by his mother, either spoken or unspoken, something like, "Your father and I have decided on your behalf that you are going to eat frozen dinners forever. We don't think you are capable, or ever will be capable, of doing what we ask your 10-year-old brother to do." My real amazement is that the young people accept such comments without rage.

Reading a Calendar

☐ One personal management skill my clients need, that I stumbled upon, is reading a calendar. My clients rank receiving the gift of a braille calendar (that I get free from a publisher) somewhere between frankincense and myrrh. "I've never seen one before." "How wonderful!" "Hey, what does 'S,' 'M,' 'T,' 'W,' 'Th,' 'F,' 'S' mean?" Figuring out what day is three weeks from today and how many days from Thanksgiving to Christmas is a fascinating session and learned quickly by most of my 20-year-olds who could have known it ten years ago.

Other Skills

☐ I also have been called upon in my time as a personal management instructor to teach oven cleaning, operating a vacuum cleaner and vacuum cleaner bag replacement, clothing selection and identification, shaving, bed-making, shoe tying, simple crafts, package wrapping, use of the telephone, sewing, refrigerator defrosting, floor scrubbing, use of cosmetics, and toilet bowl repair. I never know what will be next.

Conclusions

☐ What then is the conclusion to be drawn from this? If I may, I would like to use the comment of one of my clients again. I had asked this young woman if she could make her own bed, if they taught that at the residential school where she spent her childhood. She said, "It depended on the houseparents. I knew a girl there once, a good friend of mine, who was brilliant; she knew just everything about school subjects, especially history. But she never did make her bed because her housemother did it for her. I've often thought about her, Mrs. Morrison. What good does it do to know about the Boer War, if you can't make your bed?" I couldn't answer Janet, because she had articulated what I had been asking myself. What good does it do to educate someone if he is still as dependent on others as the smallest child in matters of basic living? What is learning anyway? What are the priorities?

Maybe things have changed in the last 20 years. Maybe today congenitally *(Continued on page 469.)*

Listening Skills: A Review of the Literature Concluded

This article is continued from page 421 of the November 1974 issue.

KATHRYN M. DAUGHERTY

Ms. Daugherty is with the Department of Special Education and Rehabilitation, School of Education, University of Pittsburgh.

Penfield, D. A., & Marascuilo, L. A. Learning to listen: a broad demonstration study. Paper presented at AERH Convention, Minneapolis, Minnesota, March 2–6, 1970. American Educational Research Association, Washington, D.C., 1970. A study to ascertain whether listening skills could be improved through training, and the grade level at which such training was most effective. Fifty-four classes of students in grades two through 11 were divided into experimental and control groups. Treatment consisted of a 22-lesson listening training program with emphasis on skill practice and immediate feedback. The criterion posttest was developed by Dr. Marie Hackett, and consisted of a triplet of questions for each listening skill. ANOVA analysis of data disclosed that training was most effective at grades two and five, but had little impact at grades eight and eleven.

Phifer, G. Propaganda and critical listening. *Journal of Communication*, 1953, **3**, 38–42. An article exploring methods of teaching critical listening. Three sections deal with: 1) Direct means, including training in logic and propaganda. 2) Indirect means, including group discussion and exposure to varying points of view. 3) Pressing needs in the area of critical listening.

Pitman, D. J. The musical ability of blind children. *American Foundation for the Blind Research Bulletin*, 1965, **11**, 63–79. A study to compare and display the general difference in performance of blind and sighted children on a test of musical ability. The Wing Test of Musical Intelligence and the Murray Test of English Attainment were administered to a group of 90 blind subjects from two residential schools and one control group. Results confirmed that a group test of musical ability was able to be used with blind subjects. Also, the scores of the blind were generally higher than the sighted on recognized chord structure and perception of directional changes.

Rankin, P. T. Listening ability, II; its importance, measurement, and development. *Chicago School Journal*, 1930, **12**, 417–420. An early study outlining research on listening ability and standards for measurement.

Rankin, P. T. The importance of listening ability. *English Journal*, (College Edition), October 1928, 623–630. One of the earliest studies in the reading and language arts area pointing to the importance of listening in the adult's total communication time. Record forms were kept by a sample of 21 people for a period of 60 days. Results indicated that 70 percent of an adult's waking time is spent in communication, with listening ranking highest at 41.2 percent. Other areas included: talking, 31.9 percent; reading, 15.0 percent; and writing 11.0 percent. The study emphasized the need for listening training programs in formal education.

Rathgaber, J. M. A comparison of the listening ability of sighted students in the intermediate grades. Unpublished doctoral dissertation, Fordham University, 1966. (See Crowley, Lake, and Rathgaber, 1965.)

Recording for the Blind, Inc. *How to use educational recordings effectively.* New York: The Author, 1962. A rare guide to visually handicapped students concerning the use of discs in education. Data were collected by the use of a one-hour interview with 366 blind college students who used RFB services and 29 who did not. Information was collected on extent of use, preference, and study skills. Statistics revealed that the average number of pages read per week was 250; 50 percent being covered by readers, 30 percent by discs, 17 percent by tapes, and only 5 percent by braille. Recorded material was preferred by 57 percent of the students. Students who owned their own recorders maintained a B average or better. Suggestions by students stressed the following: 1) Develop a recording-reading habit. 2) Listen to the material twice for general and specific information. 3) Learn to concentrate. 4) Take notes (in braille or recorded form). 5) Participate in group discussion for reiteration of basic facts.

Unfortunately, the technical aspects of this brochure are now obsolete, as recorded discs are no longer used by RFB.

Rosner, J., & Simon, D. P. *The auditory analysis test: an initial report.* Learning Research and Development Center, University of Pittsburgh, 1970. A new test, designed to measure phonic analysis and synthesis behaviors via the recognition of phoneme-grapheme interrelationships. The test consists of 40 English words which vary in length from one to four syllables. Seven task categories are measured. The task for the child involves repeating a word after the examiner, and then repeating it again omitting a specified sound. This response is an indicator of the child's analysis of spoken sound and his ability to reproduce it orally. Validation studies yield significant correlations of the test scores with achievement and IQ. The authors concluded that "the Auditory Analysis Test seems to provide a systematic method of assessing the degree to which a child has learned to sort, order, and synthesize the perceptual elements of auditory information."

Schlaegel, T. F., Jr. The dominant method of imagery in blind as compared to sighted adolescents. *Journal of Genetic Psychology, 1953,* **83**, 265–277. Not reviewed.

Scott, W. G. A study of the effects of voice characteristics in the listening comprehension of blind school children. Master's thesis, University of Oregon, 1953.

Spearrit, D. *Listening comprehension, a factorial analysis.* Melbourne: Australian Council for Educational Research, 1962. A very detailed study to identify what is involved in listening comprehension via a factorial analysis of several variables including: reasoning, verbal, comprehension, meaningful memory, rote memory, span memory, attention, presentation, and sex. A battery of 34 tests, including nine listening tests, was administered to 300 sixth grade pupils. An important finding was the isolation of a separate listening comprehension factor found to be closely related to inductive reasoning, verbal comprehension, and memory, indicating that listening comprehension tests do measure something not already tapped by reading and reasoning tests. A detailed description of statistics and mathematical constructs used in the study is provided.

Steele, N. W. Learning by blind children of low ability: the relative effectiveness of reading and listening. Unpublished doctoral dissertation, George Peabody College for Teachers, 1969. A study investigating the mode of learning in blind children of low ability. The sample was comprised of 80 subjects whose IQ's were below 85 in five residential schools for the blind. Subjects were classified into four groups on the basis of braille reading speed and comprehension. The four groups were subsequently divided so that half of each read materials in braille, and half

by listening. Two reading passages were chosen at the second and sixth grade levels. The dependent variable was the amount learned, as measured by a test of comprehension devised by the author. A four-dimensional factorial design was used to analyze the data. Results indicated that the significant variable which affected the mode of learning was the pre-existing level of braille reading comprehension ($p = 0.05$). Low IQ groups with low braille comprehension learned more through listening, regardless of speed, indicating that auditory learning for subjects with low IQ's and low braille-reading comprehension is more effective.

Story, M. L. Need for critical listening. *High School Journal*, 1965, **38**, 297–299. A discussion of the need for listening education, particularly in the area of critical listening. Three main areas which contribute to a deficit in critical listening are identified as: 1) Inability of the listener to pause for evaluation. 2) The amount of time spent in listening. 3) Persuasion techniques used in professional speeches. The motive in critical listening training is to eradicate gullibility.

Stricht

Stricht, T. G. Some relationships of mental attitude, reading ability, and listening ability using normal and time compressed speech. *Journal of Communication*, 1968, **18**, 243–258. Research to determine the relative effectiveness of reading and listening for men being inducted into the armed services at low, middle, and high levels of intelligence. Ninety-six subjects participated in a study to measure the relative effectiveness of reading and listening. Time-compressed speech comprehension was measured as a function of mental aptitude with 135 subjects. In addition, the intelligibility of words as a function of compression was evaluated with 72 subjects. Results indicated: 1) Reading and listening are equally effective with average and low aptitude groups. 2) Higher aptitude groups showed greater comprehension of compressed speech. 3) Higher aptitude groups showed greater comprehension of words under various rates of compression. In terms of "learning efficiency" defined as comprehension total listening time, all subjects performed more efficiently between 175 and 275 wpm, with a drop at higher compression rates.

Stromer, W. F. An investigation into some of the relations between reading, listening, and auding. *Speech Monographs*, 1954, **21**, 159–160.

Taylor

Taylor, S. E. *What research says to the teacher.* Report No. 29, American Education Association, Washington, D.C., April, 1964. An excellent pamphlet on the role of listening in the child's total learning experience. The history of research on listening is described and applied to practical goals for the teacher. Hearing, listening, and auding are differentiated and certain qualities are associated with each. The author's concept of "auding" as an area in which the listener "brings into play all of his experiences and background and the thinking skills which allow him to index, make comparisons, note sequences, react by forming sensory impressions, or appreciate what is heard," is more in line with the concept of Caffrey (1949, 1953), than that of other researchers. "Auding" seems to imply relation to a total cognitive field including one's preconceptions, associations, and network of experiences. It implies *response* as well as attention. The majority of articles and studies, however, also describe "listening" in these terms.

In addition to the author's discussion of sound preception in various phases, directives are given to teachers for planned instruction. An important point is that every training program should start with evaluation using standardized tests or informal hearing inventories.

Thorn

Thorn, E. The effect of direct instruction in listening on the listening and reading com-

prehension of first-grade children. Summary: Dissertation Abstracts, 1968. ERIC Documents Reproduction Service. A study exploring the effects of instruction in listening on reading comprehension and achievement level of first-grade students. Instruction was limited to eight comprehension skills, including: 1) Finding a specific answer to a question. 2) Finding details. 3) Main idea. 4) Recalling a sequence. 5) Following precise directions. 6) Making inferences. 7) Forming sensory images. 8) Using context and speech patterns as clues to meaning. Criterion tests included: A Constructed Listening Test (new), A Listening Comprehension Test for first grade, A Listening Comprehension Scale, and the Van Waganen Reading Scale. The experimental group performed significantly better after listening instruction.

Trivette, S. E. The effect of training in listening for specific purposes. *Journal of Education Research*, 1961, **54**, 276–277. An assessment of the effect of listening training derived from the Gates-Perdon Practice Exercises in Silent Reading, Book VI, concentrating on finding the main idea, noting details, and inference. Measurement criteria included two questionnaires and the Listening Comprehension Test for grades four, five, and six, developed by Maurice Lewis. A pre-post-test design was used to evaluate results. The author concluded that listening comprehension was improved by training, however, the statistical evidence is sketchy.

Winer, D. The relationship among intelligence, emotional stability and use of auditory cues by the blind. *American Foundation for the Blind Research Bulletin*, 1962, **2**, 88–93. An investigation into the relationship among intelligence, emotional stability, and the use of auditory cues by the blind. A total of 22 totally blind subjects within an age range of 50 years was evaluated using the Wechsler Adult Intelligence Scale, the Emotional Factors Inventory, and a rank order performance evaluation of the use of auditory cues in mobility. Results showed a correlation of 0.52 between the WAIS results and rank order performance in mobility. More stable subjects also ranked higher in the use of auditory cues.

Worchester, D. A. Memory by visual and by auditory presentation. *Journal of Educational Psychology*, 1925, **16**, 18–27. A study exploring the relative effectiveness of the auditory and visual modes of presentation on immediate and delayed retention of meaningful connected material. Subjects included 13 adults, ages ranging from 28 to 50 years. The learning task was rote memorization of a 100-word prose selection. The criteria was the number of words reproduced in correct order after one, two, and seven days. Results showed that neither presentation affected the rate of learning, but retention was better for the auditory mode.

Wright, E. L. The construction of a test of listening comprehension for the second, third, and fourth grades. Unpublished doctoral dissertation, Washington University, 1957. Summary: *Dissertation Abstracts*, 1957, **17**, 2226–2227. Research to construct and validate a test of listening comprehension for the second, third, and fourth grades. Three phases of test development are described with methods of item selection via difficulty and power of discrimination. The author found that a particular set of variables bore a strong relationship to general listening ability including: 1) Listening vocabulary. 2) Recognizing illustrative examples. 3) Differentiating fact from opinion. 4) Following directions. 5) Identifying rhymes. 6) Recognizing correct English.

Zelko, H. P. An outline of the role of listening in communication. *Journal of Communication*, 1954, **4**, 71–75. An outline of the role of listening in communication, the value of good listening, factors which affect the listening situation, and a list of good listening habits. A description of the "good" listener is also given.

Zelko

LISTENING TESTS

The Auditory Analysis Test, by Jerome Rosner and Dorothea P. Simon. Unpublished and newly developed under the support of the Learning Research and Development Center, University of Pittsburgh, 1970. Forms: One, standardized for grades K through six, individual. A new test, designed to measure phonic analysis and synthesis behaviors via the recognition of phoneme-grapheme interrelationships. The test consists of 40 English words which vary in length from one to four syllables. Seven task categories are measured. The task for the child involves repeating a word after the examiner, and then repeating it again omitting a specified sound. This response is an indicator of the childs' analysis of spoken sound and his ability to reproduce it orally. Validation studies yield significant correlations of the test scores with achievement and IQ. The authors concluded that "the Auditory Analysis Test seems to provide a systematic method of assessing the degree to which a child has learned to sort, order, and synthesize the perceptual elements of auditory information." (Rosner & Simon, p. 461.)

Auditory Analysis Test

Auditory Discrimination Test, by Joseph M. Wepamn. Language Research Associates (950 East 59th Street, Box 95, Chicago, Illinois 60637), 1958. Forms: Two, suitable for ages five to eight; individual, orally administered. A test to determine a child's ability to recognize phoneme differences in the English language. The test consists of 30 pairs of words, each differing in a single phoneme, and ten pairs which do not differ. The task is basically auditory, measuring accuracy of hearing and the ability to distinguish between consonants and vowels. This instrument is used primarily as a screening device for children with auditory problems and differential diagnosis of reading and speech problems. Test-retest reliability is reported at 0.91 (N = 109); equivalent forms, 167 (N = 214). Validity in terms of correlation with intelligence yielded a correlation coefficient of 0.32 (N = 45). Additional normative data is given.

Auditory Discrimination Test

☐ Seashore Measures of Musical Talent, by Carl E. Seashore, Donald Lewis, and Joseph G. Saetirt. Psychological Corporation (304 E. 45th Street, New York, New York 10017), 1960. Forms: One, Series A (1959), manual revised (1960), suitable for grades four to 16 and adults, group. Cost: $12.00, including 33-1/3 rpm. record, 50 IBM sheets, scoring key, and manual. A test providing separate measures for six areas of musical aptitude including: pitch, loudness, rhythm, time, timbre, and tonal memory. Presentation is done by a single 33-1/3 long playing record, with responses being recorded on an especially designed IBM answer sheet. In the pitch test, 50 pairs of tones are presented with a range of cycle difference of from two to 17. The listener is to determine

Seashore Measures of Musical Talent

whether the second tone is higher or lower than the first in each pair. The loudness test consists of 50 pairs of tones, differing in intensity from 0.5 to four decibels. Answering format is the same as for the pitch test. Thirty pairs of rhythmic patterns comprise the rhythm test. The listener must indicate similarity or difference for each pair. The time test consists of 50 pairs of items of different duration, requiring the subject to determine whether the second tone is longer or shorter than the first. Differences range from 0.30 to 0.05 seconds. Fifty items compose the timbre test, requiring the subject to judge whether each pair of tones are similar or different in timbre or tone quality. The tonal memory test has 30 pairs of tonal sequences with ten items each in 3-, 4-, and 5-tone spans. In each pair, the listener must identify which note is different in the sequence. Reliability coefficients are reported for each of the six subtests using the Kuder-Richardson formula of 21. The range for each subtest is: pitch 0.82–0.84, loudness 0.75–0.85, rhythm 0.64–0.67, time 0.63–0.72, timbre 0.55–0.68, tonal memory 0.81–0.83. No validity coefficients are reported in the manual; however, reference studies are mentioned. Extensive norms for three educational levels are given. This test must be used with caution due to its strong reliance on construct validity and questionable predictive validity. For information on the use of this test with blind subjects, including adaptation of answer sheets, see Forman (1958).

Brown-Carlsen Listening Comprehension Test

Brown-Carlsen Listening Comprehension Test, by James I. Brown and G. Robert Carlsen. The Psychological Corporation (304 E. 45th Street, New York, New York 10017). Forms: AM and BM are comparable forms, suitable for grades nine-13. Cost: $.60 per specimen set, including manual and expectancy chart. Postage not included. One of the first standardized tests developed for measurement of listening as an independent skill area.

Sequential Tests of Educational Progress: Listening

☐ Sequential Tests of Educational Progress: Listening, by Educational Testing Service, group development. Cooperative Test Division, Educational Testing Service (Princeton, New Jersey 08540), 1957. Forms: A and B are equivalent forms on four levels from grades four through 14. Cost: $2.00 per specimen set, postpaid. One of the most widely used standardized tests in evaluating listening skills, the test was designed to measure areas of: plain-sense comprehension, interpretation, and evaluation-application. A series of paragraphs, read aloud by the examiner, and followed by a series of 72 questions measure the areas. Types of material include: directions, explanation, exposition, narration, argument, persuasion, and aesthetic material. A detailed series of charts in the Teacher's Guide classify each item, on each form of every level, according to the skill being measured and the type of material being covered. The student receives a copy of these item choices and questions. However, all questions are read aloud by the examiner, and reading is not a necessary element of the test. Detailed instructions are provided for score interpretation and the use of normative data. Reliability for the Listening Test is 0.895 ($N = 100$), based on internal consistency as measured by the Kuder-Richardson Formula 20. Validity studies are not present in the 1957 *Technical Report*; however, a lengthy discussion on test construction suppports content validity. The 1958 School and College Ability Tests-Sequential Tests of Educational Progress

Supplement provides further data, reporting a correlation coefficient of 0.59 between the Sequential Tests of Educational Progress: Listening and grade averages for seventh grade ($N = 271$). Additional data is given in the 1962 and 1963 Supplement. This test lends itself well to pre-posttest designs because of the presence of equivalent forms on various grade levels.

Auditory Apperception Test

☐ The Auditory Apperception Test, by David R. Stone. Western Psychological Services (10655 Santa Monica Blvd., Los Angeles, California 90025), 1935. Forms: one, grades nine to adult, individual or group. Cost: $25.00 per set of records, $5.50 per set of 25 record booklets, $5.50 per 25 story booklets, and $3.00 per manual. Basically an auditory version of the Thematic Apperception Test, using sound clues as the stimuli for projection. The test consists of ten sets of stimuli, three sound situations in each set. A variety of sounds and dialogues are included. The principal task is not in hearing the sounds, but in combining them. After the presentation of each set of stimuli, the subject is instructed to present orally, or in written form a story which combines as many of the sounds as possible. Five minutes are allotted for the response. Three major schemes of analysis are given with thematic norms. As with most projective techniques, interpretation of the test is not standardized and appears to require a skilled clinician. Reliability and validity data are not given. The principal claim justifying and encouraging the use of the Auditory Apperception Test is in its productivity of useful diagnostic signs. For a reference on the use of projective aural techniques with the blind see, Husni-Palacios and Palacios (1964).

Communication Evaluation Chart

Communication Evaluation Chart from Infancy to Five Years. Business Forms, Inc. (Golden, Colorado), 1965.

Illinois Test of Psycholinguistic Abilities

Illinois Test of Psycholinguistic Abilities, Experimental Edition, by J. J. McCarthy and Samuel A. Kirk. University of Illinois Press (Urbana, Illinois 61803). Forms: one, ages 2.5-9. Cost: $32.00, includes examiner's kit, 25 record forms, the selected studies monograph, and manual. No specimen set.

PROBLEMS FOR RESEARCH

Early vs. Later Primary

1. Is training in listening skills more effective (in terms of listening comprehension) for students in grades four than for students in grade six? (Early primary vs. later primary.) Lowenfeld, 1945; Bischoff, 1967; Hollingsworth, 1964, 1965; Penfield & Marascuilo, 1970.

2. Does teacher intervention including presence, vocal reinforcement, and supplementary explanation affect the success of commercial listening skills programs (Science Research Associates and Educational Development Laboratories) in increasing listening comprehension as measured by a standardized test? Bischoff, 1967; Hollingsworth, 1964, 1965.

Note taking

3. Do significant differences in listening comprehension occur as a result of note taking by visually handicapped students in secondary classes? Carter & Haskell, 1961; McClendon, 1958; Carter, 1962; Morris & Nolan, 1969; Nolan & Morris, 1969; APH, 1970. Results of previous research are contradictory.

4. Does the type of note taking (braille or cassette) from taped materials significantly affect the listening comprehension (immediate and delayed recall) of visually handicapped students in secondary classes? Carter & Haskell, 1961; McClendon, 1958; Carter, 1962.

5. Is listening comprehension improved by supplementing taped materials with braille copies of graphics, reference areas, and footnotes? APH Report, 1970; Morris & Nolan, 1969.

6. Is listening comprehension improved by supplementing taped materials with large print copies of graphics, references, and footnotes? APH Report, 1970; Morris & Nolan, 1969. *Supplementary materials*

The last two studies might be done using a chapter of taped material on a technical subject (mathematics or geography), with teacher-made supplements, to extend contact with the concepts involved to the visual or tactual realms. Results would yield implications for textbook developers.

7. Does periodic interruption of a taped selection for review of major points significantly affect the listening comprehension of elementary age students? Nolan & Morris, 1969; APH, 1970.

☐8. Emotional filters and comprehension. How does the presence of prejudice or emotional states affect interpretation of a controversial chapter or passage? (Topeka Study, 1967.) A variety of psychological tests could determine the independent variable, (Nichols, 1957). **Emotional Filters**

9. Does review of special or technical vocabulary words, prior to taped presentation of a unit of material significantly affect listening comprehension as measured by a teacher-made test? APH, 1970—similar.

10. Does repeated listening of a taped section of material significantly affect the listening comprehension for social studies material at the high school level? This study might be done by manipulating number of repetitions, type of material, and grade level. APH, 1969. *Repetition*

11. What is the differential effect on listening comprehension of presenting a taped summary of the material (major points) immediately prior to initial presentation, or following the presentation? Does either increase learning when compared to continuous listening with no summary? APH, 1970.

12. Is there any difference in comprehension resulting from a presentation of material by a live reader, by a taped selection with teacher present, or by a taped selection with the student alone?

☐13. Motivation factor. Does prior knowledge of a comprehension check (test) significantly increase the listening comprehension of visually handicapped students? Irwin, 1954; Knower, 1945. **Motivation**

14. Do exercises which increase (aural) span memory, significantly affect retention (delayed and immediate recall) of continuous meaningful taped material? (Spearrit, 1962; Ainsworth, 1954.)

15. Is there a differential effect on post-test listening comprehension scores resulting from treatment based on a commercial listening or reading course, or treatment designed from diagnostic use of pretest scores? Equivalent test forms should be used to counteract the "testing" effect on internal validity.

16. Does specific training in critical listening skills show a significant in- *Training*

crease in critical thinking ability as measured by the Watson-Glaser Critical Thinking Appraisal? Devine, 1962; Nichols, 1952; Phifer, 1953.

17. Does a low intelligence group show significantly higher gains in comprehension than middle or high intelligence groups as a result of specific training in defined listening skills? Erickson, 1954; Lowenfeld, 1945; Steele, 1969.

18. Does comprehension of compressed speech improve with training in listening to compressed speech? Foulke, 1968, 1969, 1962, 1970; Gore, 1970, 1969.

19. Is there any relationship (correlation) between basic auditory discrimination abilities as measured by the Auditory Discrimination Test (ages five to eight) and total listening comprehension as measured by a standardized or teacher-made test? Wepman, 1958; Hare, 1970; Ainsworth, 1954.

Residential vs. public school students

20. Is there any difference in the number and kind of responses to a projective auditory test between subjects in a residential school for the blind and subjects in public school programs? Palacios and Husni-Palacios, 1954; Auditory Apperception Test.

21. Is there any difference in the comprehension of aural narrative and informative material of: blind students (congenital), partially sighted students, and sighted students of normal ability? How does this reflect on the experiential background of these students? Lowenfeld, 1945; Crowley, 1965.



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22. Is a differential effect on listening comprehension gains (as measured by pre- and post-test scores) produced by a pretaped "listening laboratory" made available to students for instruction at regularly scheduled periods, or a series of directed lessons, covering the same material, but delivered by a teacher in "live" presentation? Hollingsworth, 1964, 1965; Nichols, 1952.

Teacher Training

☐ 23. Teacher training. Does the inclusion of teacher training in the treatment phase of research training affect the overall gain in listening comprehension scores of students exposed to instruction? (Markgraf, 1962). Such a study could be done ideally in an itinerant program where a group of teachers are involved. Using a standard format of directions and materials, distribute a typed manuscript to one group while involving another in specific training seminars without disclosing the intent of variation. Data could be used to support the inclusion of training in certification programs for teachers.

24. What is the effect on comprehension of an informal reading inventory of: 1) Presenting the text visually to partially sighted students identified as good readers? 2) Presenting the text visually to partially sighted students who are "poor" readers? 3) Presenting the selection aurally to two equivalent groups? Lowenfeld, 1945; Worchester, 1925.

A behavioral definition

25. What is the behavioral definition of the "aural learner"? The definition could be developed from the research questions already posed in addition to collecting data (age, sex, IQ, visual acuity, auditory acuity, family background) on those students who consistently score higher via the auditory mode of presentation on a variety of measures. For technique, see Bateman & Wetherell, 1967.

The Other 128 Hours a Week—*Continued from page 459.*

blind children will grow up with few or none of the problems facing the young adults with whom I now work. I find conflicting evidence about this; I am not sure. My more immediate question is: What are we going to do with these young people, in their 20's, whom we have to deal with now? How is independence being achieved for the RLF people who are just finishing school?

There are fewer than a dozen of us in Florida employed to teach these young blind people, the adventitiously blinded adults, and the elderly blind, many thousands of people, how to live independently. And there is no one in Florida employed to teach such concepts to children under the age of 14. I understand some states have even fewer people employed in such positions.

Years and years of training go into preparing the blind to work full-time to support themselves, but what are they to do the other 128 hours a week?

Apple Named AFB Executive Director; Roberts to Head AFOB

Loyal Eugene Apple, Palo Alto, Calif., has been named executive director of the American Foundation for the Blind effective in January 1975. He succeeds M. Robert Barnett, who is retiring after 25 years in that position and who is also retiring as executive director of the American Foundation for Overseas Blind. Succeeding Mr. Barnett in the latter position will be Harold G. Roberts, associate director for service of the American Foundation for the Blind.

Mr. Apple has been director of the Western Blind Rehabilitation Center, U.S. Veterans Administration Hospital in Palo Alto since 1967. From 1960 to 1967 he was chief of the Central Blind Rehabilitation Section at the Veterans Administration Hospital, Hines, Ill. Previously he had been field representative and then director of the national field service program of the Blinded Veterans Association.

Born in 1932 at McCurtain, Oklahoma, Mr. Apple spent his school years in Independence, Mo., and was graduated from William Jewell College, Liberty, Mo., in 1952. He was blinded in a training accident while serving with the U.S. Army in November 1955.

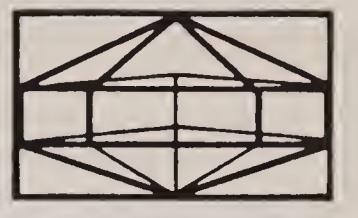
Mr. Roberts has been with the American Foundation for the Blind since 1959, successively serving as director of field services, director of community services, director of the program planning department, and, since 1967, as associate director for service. Two years ago he also assumed a similar role for the American Foundation for Overseas Blind.

Before joining the Foundations, Mr. Roberts was executive director of the Community Service Council of the Oranges and Maplewood, N.J. from 1953 to 1959 and chief of social services for the Newark Regional Office of the Veterans Administration from 1946 to 1953. During World War II he was a medical administrative officer with the U.S. Army in the Mid-Pacific area. He holds a B.A. degree from New York University, and a M.S.S.A. degree from the University of Pittsburgh School of Social Work.

Mr. Roberts is president-elect of the American Association of Workers for the Blind, and chairman of the Advisory Committee of the National Center for Deaf-Blind Youths and Adults.

Mr. Barnett, who will live in Florida, will continue to serve both Foundations as an international consultant.

Hindsight / M. Robert Barnett



More About Sex

As you know, in recent years there has been an upsurge of argument and activity in the area of sex education for young people. Even more recently, professionals in the field of services for the blind have emerged from presumed or real timidity to argue for sex instruction for blind young people, and various groups undertook to adapt curricula and techniques to a program that precludes education through pictures.

Last May, in recognition of this movement to expose the problems of blind boys and girls and present meaningful suggestions, the *New Outlook* devoted virtually an entire issue to the subject of sex education. As luck would have it, Hindsight did not appear that month. I had been too busy to prepare one, and the editors needed the space anyway.

My numerous fans have asked whether there was any special significance in the fact that there was no Hindsight that month because of the obvious major emphasis of the issue on a delicate subject. As I say, it was only a coincidence. Since some people think, however, that I did not have the courage; I will fool them and proceed to write now what I might have written then.

The subject of sex, of course, is one that seldom crosses my mind—although I suppose I could say that I have had what often is called a normal, healthy interest in it. Part of my education in this area as an adolescent stemmed from observation of and conversation with other young people with a similar normal, healthy interest. Individually and collectively, we gleaned much valuable information from sharing pornographic comic books and swapping jokes and limericks. I particularly remember the adventures of Tillie the Toiler and Maggie and Jiggs in the first category; and, in the second, the one that began "There was a young plumber named Lee."

I should remind you again that I did not lose my sight until I was 16, and that sort of education was designed for boys and girls who could see. There were other ways, of course, such as what might be called physical contact; but, if you think I am going to tell you about that, you have another think coming. Most of the girls and boys I knew are still around, and I don't think they would appreciate it.

But, I must move on to discuss my pertinent observations of blind young people, for that is the only justification for the editors to give me the space. It is important that I put all this into a time frame. My 16th birthday was in 1932, the year of the first eight-cylinder Ford, and the country was trying to come out of the Great Depression. Over 40 years ago it was, and I wonder whether basically much has changed.

About mid-term of the scholastic year 1934-35, I enrolled at a residential school for the blind, also for the deaf. There is no reason to name it, because I believe it was not greatly different from all such schools at that time. There were considerable temptations for the student body and tremendous worry for the faculty because of the physical proximity of young males and females with a normal healthy interest in getting some sex education. Those of you who are my regulars will know the school I mean anyway.

I mention the fact that the school included a deaf population because that group was a veritable gold mine of education for the rest of us, since they too had a normal healthy interest. Statistically, there were about three times as many deaf youngsters on campus as blind kids, which does not entirely account, in my view, for the discrepancy in the statistics of the ultimate result of sex mis-education—pregnancy, that is. At least a half-dozen teenage deaf girls were sent home each year "in the family way," as it was called, whereas I never heard of a single blind girl in that predicament. It may be that our sex education was a trifle better than theirs.

This zero production rate is the more interesting when one considers that the blind young people did not lack for opportunity in spite of the frantic efforts by the staff to enforce rigid rules of segregation. Boys and girls sat on separate sides of the classroom, dining room, auditorium, and, naturally, resided in separate dormitories or "cottages" a hundred yards apart. If a boy wandered too close to the girls' dorms, something terrible was supposed to happen to him—like being shot on sight.

Somebody once said that necessity is the mother of invention, and I must report that the blind youngsters of 40 years ago may not have had the freedom of today but they sure had inventiveness. There were a thousand ways to smuggle braille notes, and those notes could be used in a thousand ways to arrange a chance meeting behind the infirmary or a not-so-chance meeting in a practice room in the music department. There also were a handful of faculty, younger than the average age of the staff, who probably did not hold with the policy of strict separation, and occasionally would arrange a harmless little social hour at their homes off campus. These were to provide at least a modicum of social training and if, while dancing, the kids discovered the delights of each other's person, nothing could come of it anyway. A rather foolish assumption, I think.

One of the most delicious experiences in sex education was provided, unknowingly, when the director of the chorus and orchestra selected the most mature and capable musicians to present public performances off campus. Some of these could be as far as a two-hour ride in the school bus to another city. After an early supper for this special group of about 30 kids and about three chaperons—really quite a romantic thing in itself—off they would go to make an eight o'clock curtain. An hour or so later, back in the bus for the

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return journey, now quite dark both outside and inside. You had better believe that blind romantics fully understand the value of darkness and sleepy chaperons. I have never been able to figure out, however, how the kids, without any sign of group communication, managed to line up to board the bus so that the seating was to the ecstatic satisfaction of certain couples for whom the group had planned it.

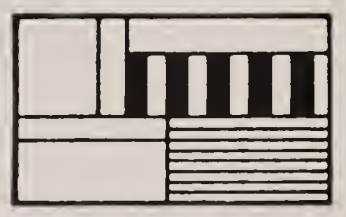
While I had not intended to reveal any personal experiences, I will relate just one to you. In terms of sex education, it did not amount to much, but in the telling there may be a small tip to the present generation of blind school kids. Through the underground communication system it was arranged that a young lady and I would meet in one of those practice rooms I mentioned. Now, you must realize that these rooms were small, and arranged around the perimeter of a larger area used for band practice. At shoulder height, the doors contained a glass window through which snoopy faculty members could peek in to see whether practice was really going on and, if so, of what sort. At the other end of the practice room, past the usual upright piano, was a full-size window overlooking a garden area two floors below.

The young lady and I, keenly aware of the peeping space in the door, pushed the piano bench up against it, so that when we sat down our heads were below the glass, and the room would appear to be empty to anyone looking in. We, being blind, of course, had never studied from the garden just what could be seen through the outside window.

You may have guessed that we were spotted; and, as a result, confined to quarters with the threat of being sent home if it occurred again. To this day, I firmly believe that it was the indulgence in normal healthy sex that disturbed the establishment. The superintendent had chosen that afternoon to escort a delegation from the state legislature, including the governor himself, on an inspection tour of the campus. It was they who inspected her and me, whether in horror or amusement is not known. The superintendent certainly was not amused.

I don't mean to treat this subject lightly or with undue humor. Sex probably is too frequently the subject of unhealthy jokes which people find funny. No, it is a very serious subject, indeed, and should be thoroughly thought about, closely examined, and appropriate action taken. The kids at my school would be in complete agreement.

Review



Oral-Aural Communications (OAC): A Teacher's Manual, by Glenn Sheffield Leavitt, M.A. Springfield, Illinois: Charles C Thomas, Publisher, 1974. 125 pp. $8.00-cloth, $5.95-paper.

Reviewed by George V. Gore III, Ed.D.

In the preface to *Oral-Aural Communications (OAC): A Teacher's Manual,* the author explains his purposes for writing the book: 1) to define oral-aural communications; 2) to define the place of oral-aural communications in blind rehabilitation programs; 3) to explain the methods which have helped blind people to improve their oral-aural communication skills. The book accomplishes all of Mr. Leavitt's purposes, an especially difficult task within the framework of a manual format. And, since most of the time I was easily able to substitute the word education for rehabilitation, I can recommend this book to educators as well as to rehabilitators.

Oral-Aural Communications is divided into two parts. Part One is an introduction to the subject of oral-aural communications. The chapter on definitions is excellent. Its brevity and clarity are refreshing. Other chapters in Part One cover the place of OAC in the total rehabilitation picture, a historical overview of the subject, basic equipment, organization and presentation

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of specific aspects, and when to teach which OAC skills.

Part Two deals specifically with teaching OAC skills to visually impaired individuals. The subjects covered include listening and reading skills and working with blind persons using various kinds of equipment—radio, telephone, talking book machine, cassette machine, open reel tape recorders, etc. Mr. Leavitt's thorough knowledge of this equipment and its use by blind persons—including the kinds of details one learns only after many years of experience—makes this section invaluable.

The one drawback to this section—and it is an inherent problem in any book that describes any kind of technology—is that some of the specific equipment mentioned has already been superseded by new or modified equipment. I am thinking particularly of the new four-track cassette machines available from the Library of Congress Division for the Blind and Physically Handicapped and the American Printing House for the Blind.

Fortunately, some compensation in the form of blank pages has been provided as a way of easing this problem. The book also contains an appendix of charts and tables which teachers can use with their students.

Dr. Gore is associate professor in the College of Education, Department of Elementary and Special Education, Michigan State University, East Lansing.

Heard Any Good Books Lately?

By Paul Kresh

The idea of recording literature on tapes and phonograph records is certainly nothing new. Talking books for the blind have been available for many years and the list of titles from the Library of Congress as well as private companies is always lengthening. Spoken word specialists—Caedmon, Spoken Arts, CMS, and Folkways—have issued hundreds of albums offering readings by some of the world's most prominent actors, actresses, and authors.

In recent years Caedmon and Spoken Arts also have transferred much of their material to cassettes, but outside the school market, sales are reported on the low side. It remained for an ambitious ex-public relations man and former newspaper reporter named Robert Karen to make the breakthrough with condensations of best-sellers and to persuade big bookstores like Brentano's and record stores like Sam Goody's to feature his wares on their counters.

According to Karen, who began Voice Over Books less than a year ago, business is brisk. He buys the rights to best-sellers, cuts them down to 90 minutes' listening time or less, hires competent actors, sometimes adds music or sound effects, and prices the packages $6.90 each. Karen says he got the idea when he was writing brief treatments of book plots for movie producers, and several big publishers so far have been happy to cooperate with him.

Karen admits that some books can be "hurt" by abridgement but as often as not "you can whittle the hell out of something and give it strength." A sampling of the merchandise from the Voice Over vaults proves Karen quite accurate in his claim. The readings, sometimes preceded by a brief introduction in the author's own voice, are wide-awake, well-paced performances. VOB actors and actresses may not rank with the Oliviers, Redgraves, and Julie Harrises in the Caedmon and Spoken Arts stables but they deliver the prose with verve, clarity and conviction. The music and sound effects are sometimes gratuitous but for the most part unobtrusive, the editing is scrupulous, and the recorded sound gratifying clear—even over the tiny loud-speaker lodged in a portable player.

The process of condensation usually works better with non-fiction than when there is a story to be told. Take *The Peter Principle* (VOB 00472), for example. That waggish tract, in which Dr. Laurence J. Peter and Raymond Hull propound the theory that all employees tend to reach their "level of incompetence" and that all corporate troubles can be traced to promoting people beyond that level, is not nearly so monotonous in this 90-minute version as in the well-padded book itself. Furthermore, actor Leonard Frey's presentational manner is quite genial.

In *I'm OK, You're OK* (VOB 00873), Dr. Thomas A. Harris's best-selling practical guide to "transactional analysis," Alan Gifford's pedagogic approach to the author-approved text left this listener numb long before the tape had run its relentless course. The trio of elements that Dr. Harris claims comprise everybody's makeup (the Parent, the Adult and the Child—best-sellerese for Superego, Ego, and Id) seems to grossly over-simplify all human problems from adolescence to atomic warfare.

Far more arresting is Myra Friedman's *Buried Alive* (VOB 10003), read with dramatic relish by an unidentified actress and the author herself. This tape recounts the frank and terrifying saga of the downfall of rock singer Janis Joplin, "consumed and driven by a need for love" as the gifted but doomed girl from Port Arthur hurries rambunctiously to her harrowing rendezvous with death. The snippets of rock and blues music that space out this reading are apt and quite unobjectionable . . . .

After all these condensations, it was a curious experience to sample Listening Library's records and cassettes of the classics in full-length "pure" readings—no music or audio "effects"—and I was rewarded with some spellbinding evenings. Interest never flagged during a complete reading, by Patrick Horgan, of Robert Louis Stevenson's thriller *Dr. Jekyll and Mr. Hyde* (CX 644), that bloodcurdling parable of good and evil composed in three frenzied weeks; a consumately modulated recitation of the entire text of James Hilton's *Goodbye Mr. Chips* (CX 37/98) by Christopher Plummer who makes the sentimental story about the career of the old English schoolmaster sound better than it probably really is; and Jack London's *Call of the Wild* (CS 641), the story of a dog who undergoes unspeakable hardships and a reversion to the primitive in the Yukon—although Arnold Moss's mellifluous, smooth tones here sometimes seem curiously at odds with the brutality of the tale. All three of these packages come with useful paperback texts.

But most memorable of all is Alexander Scourby's complete reading on six sides, of F. Scott Fitzgerald's *The Great Gatsby* (CX 621). Anyone put off by the lavish movie may turn with relief to the purity of the true original here and follow Gatsby's doomed pursuit of the fickle Daisy by means of the spare, sinewy, crackling prose in Fitzgerald's best-realized novel.

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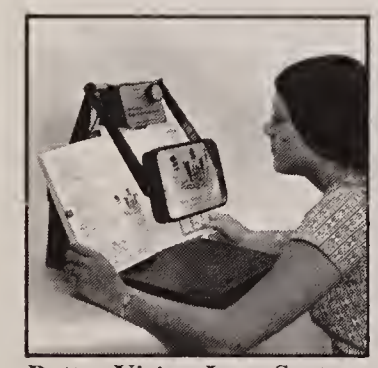
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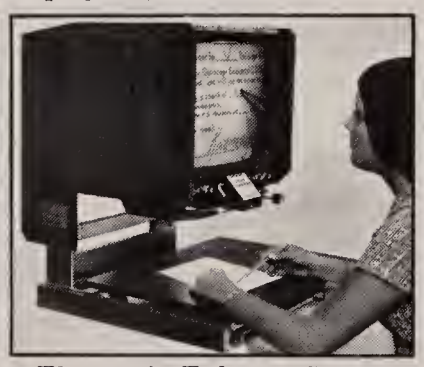
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on various labels, but its reissue in cassette form makes it far more accessible and convenient to hear over a period of time, episode by episode, even while traveling. This is certainly one of the finest readings ever recorded, bridging with admirable taste the thin line between narration and actual dramatic performance, sustained to the end, like the story itself, without a single false note or hint of fatigue. And since Mr. Scourby didn't sound the slightest bit bored from beginning to end, I wasn't either. The recorded sound is excellent.

Voice Over Books, as noted, are on sale at some of the bigger book and record stores or can be ordered from R. M. Karen, Inc., 200 Park Avenue South, New York, N.Y. 10003. A catalogue will be supplied on request. Listening Library's catalogue containing scores of titles—some are full-length versions of books, others condensations—is obtainable from Listening Library, Inc., 1 Park Avenue, Old Greenwich, Conn. 06870. The company fills orders directly. Prices range from $5.95 for a single cassette to $13.95 for a three-cassette package like "Gatsby."

Mr. Kresh is a contributing editor to Stereo Review. *This review originally appeared in the* New York Times, *September 1, 1974.* *© 1974 by the New York Times Company. Reprinted by permission.*

Classified Listings

AIDS AND APPLIANCES

Aud-a-Reader. Battery-AC disc player for 8-1/3 and 16-2/3 rpm. $40.00. SFB Products, Bala-Cynwyd, Pa. 19004.

Instruments, Recreation Equip. Sound or print catalog. Science for the Blind Products, Bala-Cynwyd, Pa. 19004.

BOOKS

Let Our Children Go: An Organizing Manual for Parents and Advocates, by Douglas Biklen ($3.50). A practical guide for child advocacy and the rights of disabled children. Human Policy Press, Box 127, University Station, Syracuse, New York 13210 (add 20¢ postage and handling).

CATALOGS

Optacon Catalog—products and services—a complete listing of Optacon Systems, Accessories, Training Course, and Training Material prices. Products are also pictured and described in detail. Write Telesensory Systems, Inc., 1889 Page Mill Road, Palo Alto, California 94304.

Aud-a-log, new 90-min. soundsheet catalog (8-1/3 rpm) of instruments for blind and visually limited. Free. SFB Products, 221 Rock Hill Rd., Bala-Cynwyd, Pa. 19004.

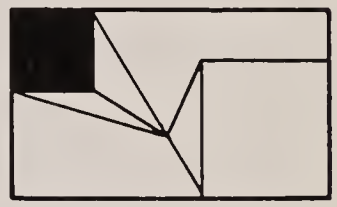
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Letter to the Editor



To the Editors:

The article "Teaching the Continental Method of Eating to Blind Persons," by Edna S. Roberts in the April 1974 issue of the *New Outlook*, highlights a very important topic which receives all too little attention. There are far too many blind people claiming to be independent on the strength of their achievements in mobility who are utterly dependent as far as the management of their food is concerned. For my part, I am as jealous of accepting help at table as in the street if I can manage by myself, because I know that good table manners are a part of the integration that we blind people seek.

The trouble is that blind people often do not know how unpresentable their table manners are, because their sighted peers are "too kind" to tell them so. I think most blind people would make the effort if the matter were put to them fairly and squarely and if they could be sure of receiving the necessary expert guidance.

The above-mentioned article is valuable, but it does not go nearly far enough. Above all, it seems to assume that humans are nothing but carnivora. Some of the greatest difficulties arise when eating vegetables, such as peas, and salads with lettuce leaves which are too large to be ingested without being cut.

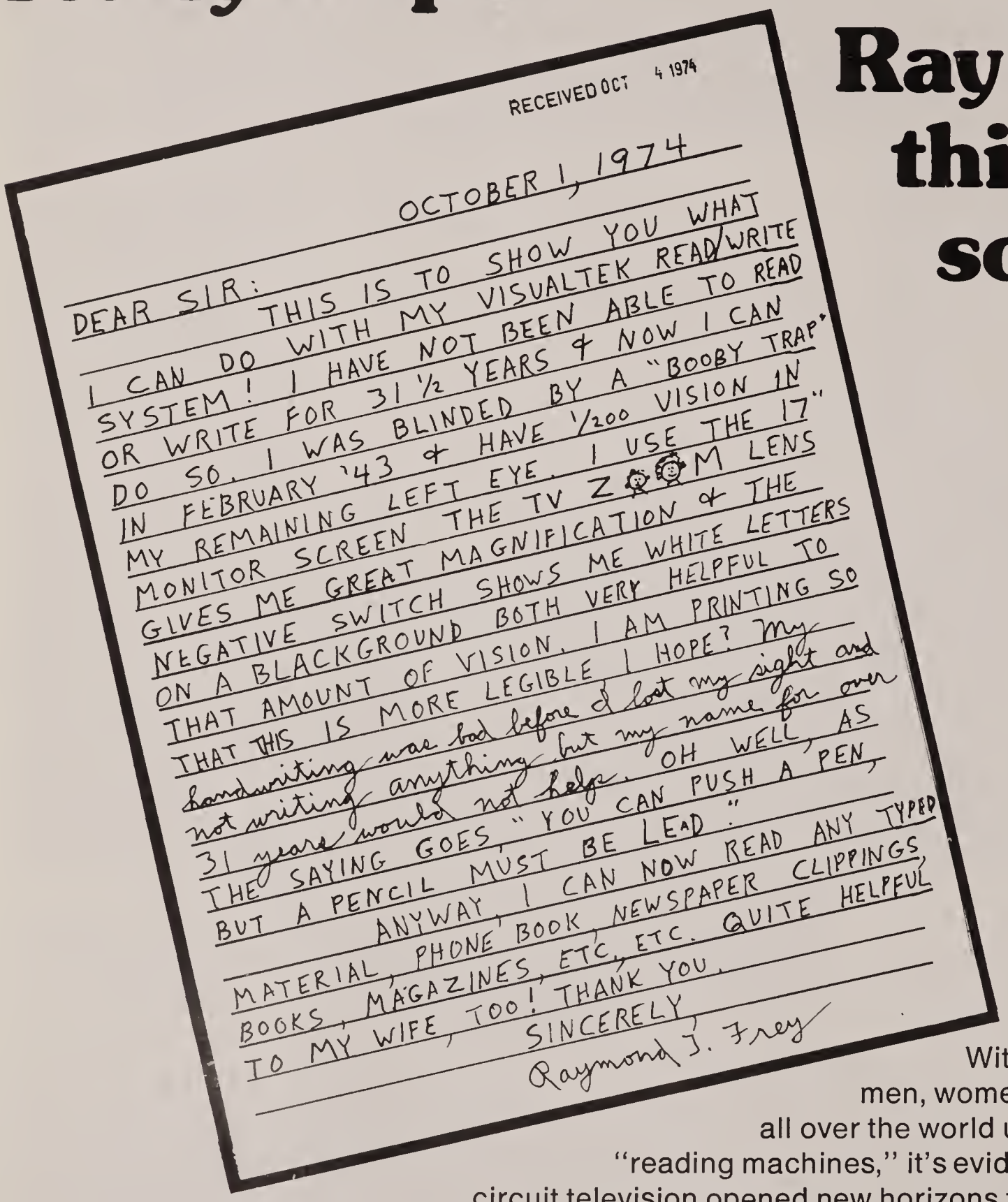
Moreover, some attention should be given to special types of meals, such as "buffet" meals where one has to stand holding the plate in one hand and an implement, usually a fork, in the other. This is extremely difficult for a blind person, beginning with the problem of always holding the plate level. I think one has to use the finger holding down the plate on top, usually the left thumb, deftly and surreptitiously as a wedge against which to steady the food before spiking it with the fork.

I do not think blind persons should try to ape the sighted at all times if they can devise a more suitable method which is convincing and does not offend. Cultured eating with the fingers (of one hand, not both) can be far more esthetic than messing round with knife and fork to little purpose. Under this heading I would put the eating of poultry, which is far more effectively eaten by picking up the more or less meat-free end of a wing. The same applies to pies, both savoury and sweet, which, provided they are fairly solid all round (that is, do not contain too much sauce or cream), are much more tidily eaten with the fingers.

These are just a few suggestions from practical experience. I hope the problems will receive further attention from the experts.

Hans H. Cohn
London, England

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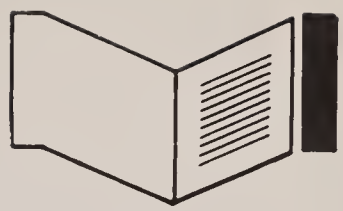
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Current Literature



A report of significant new additions to the Migel Memorial Library of the American Foundation for the Blind, prepared by Mary Maie Richardson, head librarian.

Assessing the Manual Dexterity of the Visually Handicapped, by M. J. Tobin and B. Hunter. *The New Beacon* (Royal National Institute for the Blind, 224 Great Portland Street, London W1N 6AA, England), Vol. 58, No. 687, July 1974, pp. 169-172. Report on research conducted in England using the 1960 version of the Purdue Pegboard. The subjects were 100 visually handicapped adolescents (58 boys and 42 girls) aged 16 to 19 years.

State Organizational Patterns for Education of Visually Impaired Children, by A. James Nezol. *Exceptional Children* (The Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091), Vol. 41, No. 1, September 1974, pp. 43-44. Brief report on survey data collected in 1973. Questionnaires were sent to persons on the state level most directly responsible for administering programs for visually impaired children. Replies were received from 41 states.

Use of Dimension Highlighting Procedures With Multiply Impaired Blind Adolescents, by Sheldon S. Maron and Geraldine T. Scholl. *Exceptional Children* (see address above), Vol. 41, No. 1, September 1974, p. 50-51. Two highlighting techniques, perceptual isolation and functional matching, as well as a combination of the two, were used in tests designed to measure improvement in tactile discrimination ability.

Differences Between the Congenital and the Adventitious Blind. *Lantern Light* (Royal New South Wales Institution for Deaf and Blind Children, 111-115 Chandos Street, St. Leonards, New South Wales, 2065), Vol. 8, No. 2, June 1974, pp. 30-31. Brief description of differences in attitudes as they affect rehabilitation.

Crisis & Challenge at VBI, by George J. O'Neill. *The Lion* (Lions International, York & Cermak Roads, Oak Brook, Illinois 60521), Vol. 57, No. 3, September 1974, pp. 14-15. Story of the Volunteer Blind Industries in Morristown, Tennessee, a project of the Lions Club that serves the blind of 21 counties in Tennessee.

A Vocational Guidance Course for Visually Impaired Student-Clients, by Lillian R. Carroll and Alfred H. LaBarre. *The Florida School Herald* (Florida School for the Deaf and the Blind, St. Augustine, Florida 32084), Vol. 73, No. 5, January 1974, pp. 1-4. A vocational guidance course was developed by the authors in a cooperative effort between the Department for the Blind of the Florida School for the Deaf and the Blind and the Florida State Bureau of Blind Services. The course was officially instituted in the 1969-70 school term.

Merioneth Mountaineers, by Bob Fullard. *St. Dunstan's Review* (191 Old Marylebone Road, London NW1 5QN, England), No. 655, August 1974, pp. 14-16. Four St. Dunstaners, including the author, made the climb of Cader Idris (2,927 feet) in North Wales.

Jay Birch, 20/20 Scouter, by Doug McKae. *Scouting* (North Brunswick, New Jersey 08902), Vol. 62, No. 6, September 1974, pp. 62, 100. The story of Jay Birch, a Scouting professional for seven years before losing his sight in 1970; he has successfully continued in his chosen career.

ADDITIONAL LISTINGS

A classified listing of books, articles, directories, pamphlets, and other material of interest to the readers of the New Outlook for the Blind, *prepared by the editors. Please write to the source listed in each entry if copies or more information are desired; the materials are not available from the* New Outlook *or the American Foundation for the Blind.*

Directories, Catalogs, Lists

International Directory of Genetic Services, Birth Defects, compiled by Henry T. Lynch, M.D., Daniel Bergsma, M.D., and Robert J. Thomas, Ph.D. The National Foundation-March of Dimes, Professional Education Department (1275 Mamaroneck Ave., White Plains, NY 10605), 1974, 80p. Free.

Pamphlets

Field Methods for the Control of Trachoma, edited by M. L. Tarizzo. Q Corp. (49 Sheridan Ave., Albany, NY 12210), 1973, 48p. Free.

Helping the Handicapped Teenager Mature, by Evelyn West Ayrault. Public Affairs Committee (381 Park Ave. So., New York, NY 10016), Pamphlet No. 504, 1974, 27p. 35 cents.

How to Choose a Nursing Home: A Shopping and Rating Guide, prepared jointly by Citizens for Better Care and the Institute of Gerontology of the University of Michigan-Wayne State University. Citizens for Better Care (960 East Jefferson, Detroit, MI 48027), 1974. $1.50.

After 65: Resources for Self-Reliance, by Theodore Irwin. Public Affairs Committee (381 Park Ave. So., New York, NY 10016), Pamphlet No. 501, 1973, 28p. 35 cents.

Recreation

Design for Play, by Richard Dattner. MIT Press (28 Carleton St., Cambridge, MA 02142), MIT 225 Urban Studies, 1974, 144p. $4.95. This illustrated book on playground design includes a chapter (pp. 109-117) on playgrounds for handicapped children. The author emphasizes that children with special problems need specially designed playgrounds, but that their essential requirements are the same as those of normal children.

Sex Education

Sexuality and the Handicapped, by Milton Diamond, Ph.D. *Rehabilitation Literature* (National Easter Seal Society for Crippled Children and Adults, 2023 W. Ogden Ave., Chicago, IL 60612), Vol. 35, No. 2, February 1974, pp. 34-40. The author views sexuality from five different perspectives, within which he discusses three overriding issues for the handicapped: 1) performance and expectations, 2) guilt, and 3) communication. A dialogue among handicapped people is included, exemplifying these issues.

In Brief



■ The Center for Independent Living of New York Infirmary, a residential rehabilitation program for blind persons 55 years of age and older, has published a description of the program's philosophy and services in print and recorded on a soundsheet. Copies are available from the Center at 310 East 15th Street, New York, N.Y. 10003.

■ Bruce Bevan of Poughkeepsie, N.Y., who waged a successful two-year long court battle to retain his public school teaching job after losing his sight due to diabetes, returned to his sixth grade classroom in September 1974. Upon his return, he revealed that an operation in June 1974 had restored—although perhaps only temporarily—the sight in his right eye.

Robert Timmons, the principal of Poughkeepsie Middle School, said "I think it's kind of ironical that the first day back for a blind teacher is for a teacher who is no longer blind."

■ The Lighthouse, the New York Association for the Blind, has begun to hold a series of monthly seminars on "Understanding the Needs of Blind and Partially-Sighted Persons" for people in allied fields whose work brings them into contact with blind people. The seminars, which are being coordinated by William L. Generette, director of community services for the Lighthouse, cover attitudes toward blindness, mobility and cane travel techniques, low vision services, rehabilitation, recreation, and child development.

Admission to the seminars is free. For more information, write Community Services, The Lighthouse, 111 East 59th Street, New York, N.Y. 10022.

■ Research to Prevent Blindness, Inc. has received a $75,000 pledge from William Friedkin, director of the film version of "The Exorcist." The pledge, $25,000 of which has already been delivered, permits the continuation of a scientific scholars program begun in 1971 with a gift from the Louis B. Mayer Foundation.

Isaac Ben-Sira, M.D., associate scientist at the Retina Foundation, Boston, was selected as the first recipient of three annual $25,000 awards to be made with Mr. Friedkin's gift. As a Research to Prevent Blindness—William Friedkin Scholar, Dr. Ben-Sira will pursue development of a new field of eye research that could have an impact on the study and management of diseases of the retina. He will first study groups of normal individuals of different ages, establishing the normal values for the movement and utilization of blood and oxygen in healthy eye vessels. He will then examine groups of patients with various specific diseases involving the vascular system, using the same techniques for purposes of comparison.

Two more Research to Prevent Blindness —William Friedkin scholars will be selected in 1975 and 1976.

■ Magna Print Books, a large type series of "how to" publications, is now being distributed in the United States by G. K. Hall & Co. The series, which is published in the United Kingdom, includes titles on indoor and outdoor gardening, caring for pets, collecting, and making home preserves and wine. For more information and a list of titles now available, write G.K. Hall & Co., 70 Lincoln Street, Boston, Mass. 02111.

Appointments

■ Veterans Administration: **Dr. Kenneth J. Myers,** director of optometry.

■ Arkansas Enterprises for the Blind: **Louis H. Rives, Jr.,** director of research and staff development.

Awards

■ Disabled American Veteran of the Year: **Salvatore D'Amico,** blind and double amputee social worker at the Veterans Administration Hospital, Newington, Conn.

Deaths

■ **Alice I. Haines,** rehabilitation teacher and director of public relations at the Columbia Lighthouse for the Blind, Washington, D.C. from 1957 to 1971, in Mazatlan, Mexico, September 1, 1974.

■ **Lucia Anavi Wilcox,** well-known painter who continued to paint and exhibit after she lost her sight, in New York City on September 2, 1974.

■ **Eugene Cowles Bennett,** father of Phil Bennett, a blind orchestra leader, and supplier and developer of braille wristwatches, in Montclair, N.J. on September 22, 1974.

Coming Events

December 6-11 American Vocational Association, New Orleans.

1975

January 14-15 National Braille Association, Regional Meeting and Workshops, St. Petersburg, Fla.

February 26-March 1 International Conference of the Association for Children With Learning Disabilities, New York City.

April 16-17 American Geriatrics Society, 32nd Annual Meeting, Miami Beach.

April 20-26 Council for Exceptional Children, 53rd Annual International Convention, Los Angeles.

April 24-29 Association for Research in Vision and Ophthalmology, Annual Meeting, Sarasota, Fla.

May 5-8 National Braille Association, 13th National Conference, Milwaukee.

June 15-19 American Medical Association, 124th Annual Meeting, Atlantic City, N.J.

June 15-21 American Physical Therapy Association, Anaheim, Cal.

June 21-22 International Federation on Aging, Third Conference, Jerusalem.

June 22-27 Tenth International Congress on Gerontology, Jerusalem.



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INDEX

THE NEW OUTLOOK FOR THE BLIND

VOLUME 68, 1974

Compiled by Audrey C. Gilmour

New York, 1974
American Foundation for the Blind
15 West Sixteenth Street

Inclusive page numbers for each issue:

January	1-48	June	241-288
February	49-96	September	289-336
March	97-144	October	337-384
April	145-192	November	385-432
May	193-240	December	433-480

INDEX

THE NEW OUTLOOK FOR THE BLIND

Volume 68, 1974

Access
  to public buildings, 383
Accountability
  agency, 241–46
  of the researcher (article), 95
Accreditation
  list, 191, 383
Adams, Andrew S., 384
Adams, Walter, 335
Adoptions
  "Reflections on Interstate Adoptions" (article), 431
Adventitiously blind, the
  and early vision, 157–62
Agencies
  and consumerism (pamphlet), 141
  rehabilitation, accountability, 247–51
  services, defining and measuring, 241–46
  travel for the handicapped, 287
Agency administration
  accountability (article), 45
  "Diabetic Youths and Their Families" (article), 285
  future options (article), 141
  "The Future Outlook for Delivery of Human Services" (report), 286
  "A Handbook of Human Service Organizations," 333
  "The Wages of Inflation" (article), 427
Aging, the
  "After 65: Resources for Self-Reliance" (pamphlet), 479
  "Aging and IQ—The Myth of the Twilight Years" (article), 427
  "Alternative to Institutional Care of the Aged" (article), 93
  and environmental architecture, 286
  and environmental barriers, 356–62
  low vision aid for, 124–27
  mentally impaired, therapy for (article), 93
  Never Too Young (film), 381
  and sensory losses, 356–62
  supplemental security income, 79
  symposium, 431
  To Live With Dignity (film), 381
Aging blind, the
  Center for Independent Living of New York Infirmary, 480
  long-term care facilities, 145–50
  rehabilitation, visual, 124–27
  as volunteers, 31
  working with, 149–50
Adventitious blind, the
  adjustment training, intensive, 239
Aids and appliances
  for the aging, 356–62
  clear path indicator or environmental sensor, 315–19
  list for partially sighted, 381
  market, 229
  Tactile Guidestrip for Blind Pedestrians, 322–23
  The Tactile Vision Substitution System, 394–97
The Albany Association of the Blind, 287
Albro, Stephen W., 96
Alcoholics Anonymous literature on tapes and in braille, 127
Allen, Pat, 267
American Academy of Achievement, Golden Plate Award, 192
American Association for Health, Physical Education, and Recreation Anderson Award, 288
American Association of Workers for the Blind (AAWB), 89, 105, 434
  job exchange service, 144
American Brotherhood for the Blind, 432
American Diabetes Association, 432
American Foundation for the Blind (AFB), 10, 98, 144, 192, 383, 425, 434
  advisory committee on aging, 145
  on aging and blindness, 431
  International Register of Research on Visual Impairment, 314
  library, 105
  Migel Medal, 382
  Newsletter and Washington Report in braille, 95
  Optacon evaluation, 49–56
  and sex education, 216
American Foundation for Overseas Blind (AFOB), 336
American Optical Corporation, 101
American Optometric Association, 432
American Printing House for the Blind (APH), 239, 240
  Instructional Materials Reference Center, Central Catalog, 154
American Public Welfare Association, 432
The American Society for Hospital Personnel Administration, 240
Answer Board, 400
Anti-Defamation League of B'nai B'rith
  1974–1975 Catalog of audio-visual materials, 287
Appell, Fred L., 192
Apple, Loyal Eugene, 470
Apollo award, 432
Architecture
  accommodation course, 335
  and the aging, 356–62
  "Barrier Free Design: A Selected Bibliography" 333
  barriers (mimeo), 93
  "Environmental Design" (article), 429
  "Physiological and Behavioral Characteristics of the Elderly: A Basis for Design Criteria for Interior Space and Furnishings" (article), 286
Ardmore School, Halifax, Nova Scotia, 315
Argonne National Laboratory, reading machine, 383
Arizona State School for the Blind, 335
Arkansas Enterprises for the Blind, 432
Arkansas Rehabilitation Services, 248
Arkansas School for the Blind, 347
Armbands, reflective, 287
Arnor, Anders, 371
Asarkof, John B., Dagmar B. Friedman, and Carter B. Tallman
  "Comprehensive Low Vision Care: Part One," 97–103
Association for the Blind and for Sight Conservation, 267
Atomic Energy Commission, Argonne National Laboratory, reading machine, 383
Attitudes, 138–39, 277–79, 320–21
  an analysis of, dynamics and effects, 108–18
  of the blind toward the sighted, 41
  brochure, 144
  "Emotional Issues in Raising Handicapped Children" (article), 333
  on employment, 308–14
  helping professions, the blind in, 375
  seminar in, 480
  Sexism and Youth (anthology), 381
  the spread phenomenon, 109
  "Tell It Like It Isn't" (pamphlet), 287
  "Your Handicap—Don't Let It Handicap You" (book), 333
Auditory Analysis Test, 464
Auditory Apperception Test, 466
Auditory Discrimination Test, 464
Auditory evaluation and training, 338
Audio-tactile exhibition, mobile, 252–59
Audio-Visual Materials
  1974–5 Catalog, 287
Austin State School for the Mentally Retarded, 20
Autism
  and RLF, 61–71
Awards, 48, 144, 192, 240, 288, 336, 384, 432, 480
  (See also name of award.)

Bach-y-Rita, Paul (award), 384
Bakalar, Christine Heilman, 336
Baker, Larry D.
  "Authoritarianism, Attitudes Toward Blindness, and Managers: Implications for the Employment of Blind Persons," 308–14
Baker, Richard B., 240
Ball games for visually handicapped children, 347–55
Bannister, Olive, 91
Barnett, Robert M., 240, 371, 382, 383, 431
Bartlett Award of the President's Committee on Employment of the Handicapped and the American Institute of Architects, 336
Bauman, Mary K., 131
Bausch and Lomb, 143
Baylor, J., R. B. Benton, N. A. Permenter, and P. McLelland

"Evaluating the Work Potential of Blind Multiply Handicapped Persons for the Manufacture of Bath Perfume," 20–24
Behavioral Publications 1974 Catalog, 287
Behavior modification in teaching, 340
Benjamin, Malvern, 405
Bennett, Eugene Cowles, 480
Ben-Sira, Isaac, 480
Benton, R. B., N. A. Permenter, J. Baylor, and P. McLelland
"Evaluating the Work Potential of Blind Multiply Handicapped Persons for the Manufacture of Bath Perfume," 20–24
Bentzen, Billie L., 408
Berlá, Edward, 408
Bevan, Bruce, 480
Bibliography
on listening skills, 363–69, 415–21, 460–69
Bird enthusiasts, blind, 288
Birth defects
monitoring, 191
Black heritage cassette, 191
Blasch, Bruce B. and Richard L. Welsh
"Manpower Needs in Orientation and Mobility," 433–43
Bleakley, W. Harold, 336
Bledsoe, Warren
"Employment of the Blind in the United States Before 1940," 375–77
Bleecker, Richard W., 336
Blind, the
(See aging, adventitious, child, congenital, multihandicapped, retarded, and deaf-blind.)
Advancing Volunteer Service for Blind People, 287
attitudes toward, an analysis, 108–18
desert center, 239
eating, teaching the continental method to, 170–3, 477
and employment, 375
farmer, 281
handbell choir for, 315–19
patient (pamphlet), 141
Spanish information pamphlet, 45
and stereotypes, 29–32
supplemental security income, 79
and vocational placements, 29–32
workers for the blind, 375
The Blind Association of Western New York, Accreditation, 191
Blinded Veterans Association, 48, 240, 384
Blinded veterans of the Vietnam war, 226–29
Blind Industries and Services of Maryland
mobile eye clinic, 335
Blindisms
and nonverbal communication training, 233
and RLF, 61–71
Blind Learning Aptitude Test (BLAT), 240, 431
Blind, multihandicapped, the
work potential evaluation, 20–4
Blindness
attitudes toward, an analysis, 108–18
"Blindness Prevention . . . A New Service of the American Foundation for Overseas Blind," (pamphlet), 333
cataract, 288
and early vision, 157–62
effect of, rating scale, 174–77
Meeting the Challenge of Blindness (film), 429
need for definition, 229
and need for sex education, 201–09
and nonverbal communication, 231–33
and prematurity, 5
prevention agency, new, 371
reporting of in New York, 336
research to prevent, grant, 480
and the spread phenomenon, 109
symposium, 431
The blindness system, 241
Blind Volunteers, 287
Bliss, James C., 41
Blos, Joan W.
"Traditional Nursery Rhymes and Games: Language Learning Experiences for Preschool Blind Children," 268–75
"Rhymes, Songs, Records, and Stories: Language Learning Experiences for Preschool Blind Children," 300–7
Blum, Barbara, 96
Boninger, Walter
"A Nature Trail for All People," 425
Bookmobile for homebound elderly, 132
Books
on cassettes, reviewed, 475–77
large print, 335
for preschoolers, 269–70, 300–7
recorded and braille, 151–56
on sex education, 265–66
Borchert, Charles R., 96
Boston College, 104
Boston University Medical Center
Low Vision Clinic, 97–103
Boston University School of Medicine, 47
Braille
The ABC's of Braille, 239
Alcoholics Anonymous literature in, 127
A.R.E. Braille Library, 383
Argonne machine, 383
automatic electronic translating devices, 192
book bank, 154
cancer pamphlets, 383
calendar, 469
check writing service, 47
"Customs Hints for Returning U. S. Residents," (booklet) 335
Gourmet Menu Book, 431
listening skills improvement course, 335
music notation for handbell choir, 315–19
NBA Book Bank (booklet), 287
piano instruction book, 432
rapid reading workshop, 9–12, 71
reading, speed, study, 13–19
technical tables bank, 154
tests, 399
textbooks, 153–56
Braille Institute Center of the Desert, 239
Brailler repair, 239
Brandon, Arthur L., 366
Brazil, 369
World Council for the Welfare of the Blind, 423–25
Breathing exercises, 389
Brigham Young University, Murray B. Allen Center for the Blind, 10
Brown-Carlsen Listening Comprehension Test, 465
Brown, Charles E.
"Defining and Measuring Agency Services to Improve Their Effectiveness," 241–46
Bucknell University honorary degree, 366
Buell, Charles (award), 288, 408
Bureau for Handicapped Children, 89
Buried Alive (cassette), 475
Burleson, Derek L.
"Starting a Sex Education Program: Guidelines for the Administrator," 216–18
Burnside, Irene M.
"A Nurse's Perspective: Blindness in Long-Term Care Facilities," 145–50
Business enterprises education program for supervisors, 128–31
Byrne, Susan
"A Design for a Mobile Audio-Tactile Exhibition for Blind and Sighted School-Age Children," 252–59

Calendar reading, 469
California School for the Blind, 377
Call for Action, 347
Call of the Wild (cassette), 475
Camp
preschool for parents and children, 344–47
Campbell, Charles F., 377
Camp Challenge, 344–47
Canada
deaf-blind children in, 315–19
Canadian National Institute for the Blind, 315
Cancer pamphlets in braille, 383
Cane
long, 289
Cardwell, James B., 96
Career education
essays, 93
information, 32
tapes, 47
vocational program development, 25–28
Carroll, Lillian R. and Alfred H. LaBarre
"A Cooperative Vocational Guidance Course for Visually Impaired Students-Clients," 163–69
The Carroll Rehabilitation Center for the Visually Impaired, 96, 99, 239, 336
Cassettes
A.R.E. Braille Library, 383
books on, reviewed, 475–77
contemporary fiction series, 384
library, catalogue of, 335
listening skills improvement course, 335
piano instruction book, 432
on sex education, 265–66, 267
The Sounds of Black Heritage, 191
Catalogs
library catalog for tapes and cassettes, 335
Cataract (pamphlet), 45
Cataracts (film), 288
CCTV (See Closed-circuit television.)
Center for the Blind (Philadelphia), 336
Chase, Joan B.
"A Retrospective Study of Retrolental Fibroplasia," 61–71
Cherry, John D., 425

Chicago Lighthouse for the Blind, 96, 240, 336
and low vision aids, 124
Child, blind, the
ball games for, 347–55
help for (book review), 87
language learning experiences for preschoolers, 268–75, 300–7
mobile, audio-tactile exhibition for, 252–59
play environment for, 408–14
preschool camp for, 344–47
and sex education, 193–200, 201–9, 210–11
study, 20-year outcome, 1–7
Childhood development, early
Let's Stop Destroying Our Children (book), 429
and RLF, 63
Children, handicapped
lawsuit on rights of, 33
Children's book, large print list of, 47
Cifrino, Paul J., 336
Claiborne, John W., Jr. (award), 336
Clark, Leroy, Jr., 144
Clark, Leslie L., 314
Clark, Robert P.
"Business Enterprises Education Program: A Course for Supervisors," 128–31
Clarke, Bryan R. and Marg Csapo
"Deaf-Blind Children in Canada," 315–19
Clarke, Stuart H., 384
Classroom, mobile, 185–87
Clear path indicator, 315–19
Cleveland Metropolitan Park nature trail, 425
The Cleveland Society for the Blind, 192
Business Enterprises and Work Training Center, 335
Cleveland Society for the Prevention of Blindness, 98
Cleveland State University, Ohio, Blind Rehabilitation Program, 384
Clinic, vision rehabilitation, 97–103
Closed-circuit television, 31, 101
letters to the editor, 83–4, 327–29
systems, 281
Clovernook Home and School for the Blind, 239, 445
Clunk, Joseph, F., 377
Coker, D. Gary
"The Development of a Vocational Program in a Residential School for the Visually Handicapped," 25–28
College
textbooks, recorded and braille, 151–56
Colorado School for the Deaf and the Blind, 315–19
Columbia Lighthouse for the Blind, 288
Commonwealth Fund, grant, 288
The Commonwealth Opportunity Fund educational fund, 335
Communication
Evaluation Chart, 466
nonverbal, 231–33
non-verbal in sex education, 206–7
Oral-Aural Communications (OAC): A Teachers' Manual, Glenn S. Leavitt, reviewed by George V. Gore III, 473–75
Community Council of Greater New York, 383
Community living for retarded persons, 192
Concerned Blind Students Organization (CBSO), 329
Confidentiality
"A New Look at Confidentiality in Social Welfare Services," (pamphlet), 333
Consumerism
and agencies (pamphlet), 141
"Charities: Which Ones Are Worth Giving To?" (article), 381
"Consumer Advice for the Handicapped" (booklet), 191
A Consumer's Dictionary of Cosmetic Ingredients (book), 429
public social programs (article), 45
"Report on Status of Eyeglass-related Injuries" (article), 429
Contemporary Fiction Series, 384
Cooking, 456–59
Gourmet Menu Book, 431
Coppage, William T., 129
Corbett, Michael P.
"Professionalism in Mobility," 104–7, 281
Cosmetics
A Consumer's Dictionary of Cosmetic Ingredients (book), 429
Cote, Jules
"Itinerant Teaching Using Mobile Classrooms," 185–7
Council for Exceptional Children
tape cassettes, 47
Counseling
genetic (article), 95
genetic (periodical), 45
industrial (book), 45
Cowburn, Marcelle, 371
Cox, Wendell, 384
Cozier, J. Kenneth (award), 288
Craft, Thomas, 384
Crandell, John M. Jr., Bert P. Cundick, and Lee Hendrix
"A New Method for the Group Testing of Blind Persons," 398–403
Crandell, John M. Jr., and David H. Wallace
"Speed Reading in Braille: An Empirical Study," 13–19
Cratty, Bryant, 408
Csapo, Marg and Bryan R. Clarke
"Deaf-Blind Children in Canada," 315–19
Cullman, Mrs. William, 144
Current Literature, 43–7, 91–5, 139–41, 187–9, 237, 285, 329–33, 379, 427
Culver-Stockton College Workshop in Rapid Reading in Braille, 71
Cundick, Bert P., John M. Crandell, Jr., Lee Hendrix
"A New Method for the Group Testing of Blind Persons," 398–403

D'Amico, Salvatore (award), 432, 480
Dating, 264
Daugherty, Kathryn M.
"Listening Skills: A Review of the Literature," 363–69, 415–21, 460–69
Dauterman, William L., 19
Davis, Philip J., 101
Day, Billy, 129
Deaf, the, TV captions for, 96
Deaf-blind, the
evaluation/training program, 444–46
marriage, 384
Deaf-blind children, 89
in Canada, 315–19
Delfino, Liborio, 377
DeLorean, John Z., 240
Delta Gamma Foundation scholarships, 48
Dennis, Louis B., 384
de Stahl, Eliza, 371
Detroit League for the Handicapped-Goodwill Industries, 444
Development, early childhood, 300–7
Diabetic Youth and Family Program of Wichita, 285–86
Dialogue Publications Public Service Award, 288
Dickey, Thomas, 41
Diener, Irving, 240
Directory of Agencies Serving the Visually Handicapped in the United States, 434
Disability Seriousness Scale, 174–77
Disabled, the
supplemental security income, 79
Disabled American Veteran of the Year, 432, 480
Discrimination
legal recourse, 432
Dr. Jekyll and Mr. Hyde (cassette), 475
Dr. Richard Kinney Challenge of Living Award of the Hadley School for the Blind, 336, 432
Dog guide
mobility in the United Kingdom, 72–78, 327
pamphlet, 45
services and concessions in the United Kingdom, 72–78, 327
training in the United Kingdom, 74–78, 327
Dolan, Cleo, 371
Drug use and abuse, 264

Eating
teaching of, continental method, 170–73, 477
Ebersole, Arville L., 240
Echolalia, 341
Education
(See also career, sex.)
alternatives for exceptional children (book), 93
behavior modification training for multihandicapped blind students, 447–53
business enterprises program, 128–31
The Commonwealth Opportunity Fund, 335
"Continuing Education—Teaching Staff to Teach" (article), 429
A Continuing Summary of Pending and Completed Litigation Regarding the Education of Handicapped Children (book), 429
"Developing Instructional Materials for the Handicapped: Guidelines for Preparing Materials for Wide Distribution" (booklet), 333

electronics training project, 119–23
of handicapped children, 143
"Impressions of Special Education Soviet Style" (article), 189
"Itinerant Teaching Using Mobile Classrooms," 185–87
language learning experiences for preschoolers, 268–75, 300–7
lawsuit (book), 95
listening skills bibliography, 363–69, 415–21, 460–69
"Mainstreaming the Handicapped" (article), 429
manual for in-service educators in nursing homes, 97, 89
mobile, audio-tactile exhibition, 252–59
of multiply-handicapped blind persons in state institutions, 337–43
play-learn environment, 252–59
in preschool camp, 344–47
preschool, rhymes, songs, records for, 268–75, 300–7
Retarded Pupils in the Mainstream—the Special Education of Educable Mentally Retarded Pupils in Regular Classes (book), 287
special, teacher training in, 47
and Tactile Vision Substitution System, 394–97
textbooks, recorded and braille, 151–56
vocational guidance bibliography, 168–69
vocational program, 25–28
Educationally Handicapped Program, 33
Electronics training project, 119–23
Elias, Helen
"A Tactile Guidestrip for Blind Pedestrians," 322–23
Ellenberg, Max, 432
Emerson, Leroy N., 240
Employment, 375
authoritarianism and implications for, 308–14
before 1940, 375–77
exchange bulletin, 45
of handicapped persons, survey, 240
industrial electronics, 119–23
job exchange service, 144
readiness assessment, 57–60
switchboard operator-receptionist, 335
and Tactile Vision Substitution System, 394–97
teacher, 288
teleservice representative, 19, 24
in VA hospitals, 47
and the Vietnam veteran, 324–27
of women (book), 45
Environmental
barriers and the aging, study, 356–62
sensor, 315–19
European Register of Research on Visual Impairment, 314
Evaluation
program for deaf-blind adults, 444–46
Exercise through Yoga, 385–393
Eye
clinic, mobile, 335
disease, 287
disease of the macula (book), 142
disease, study, 47
screening (film), 429
Facts About Blindness, 439
Farley, Robert E., 129
Farmer, blind, 281
Faye, Eleanor, 98
Fearn, George W., 240
Federal and State Benefits
"The Demonstration Grant is Probably Counter-Productive" (article), 429
Fellowship Plan of Citizen Advocacy, 143
Ferrell, William J., 129
Fiction cassette, 384
Field, Gilbert
"Recorded and Braille Textbooks; Everything the Blind Student Needs to Know," 151–53
Films
Cataracts, 288
George's Story, 101
Low Vision: The Edge of Sight, 101
Meeting the Challenge of Blindness, 429
Never Too Young, 381
Public Attitudes Toward the Physically Disabled, 95
sex education, 222
The Two-Foot World of Paul Jackson, 429
To Live With Dignity, 381
Finger plays, 272–75
Fitch, William C., 431
Florida Bureau of Blind Services, 383
Florida School for the Deaf and the Blind
vocational guidance course, 163–69
Florida State University, 48
Florence Jolley Piano Method, 432
Foley, Thomas S., 240
Foulke, Emerson and Thomas Uhde
"Do Blind Children Need Sex Education," 193–200, 208
Fox, Eleanor, 192
Francis I. Proctor Award of the Association for Research in Vision and Ophthalmology, 336
Francis Joseph Campbell Award of the Round Table on Library Services to the Blind, American Library Association, 336
Friedkin, William, 480
Friedman, Dagmar B., Carter B. Tallman, and John E. Asarkof
"Comprehensive Low-Vision Care: Part One," 97–103
Friedman, Ephraim, 98
Friedman, Gerald R. and CCTV, 83, 85, 281, 327–29

Galin, Miles A., 192
Gallagher, Patricia A. and Ruth E. Heim
"The Classroom Application of Behavior Modification Principles for Multiply Handicapped Blind Students, 447–53
Gallagher, William F.
"The Elbow Has an Intelligence Quo tient," 39, 41
Games
ball, for visually handicapped children, 347–55
for preschoolers, 268–75
Gardening
Horticulture as a Therapeutic Aid (monograph), 191
Genetics
counseling (pamphlet), 141
counseling (periodical), 45
International Directory of Genetic Services, Birth Defects (booklet), 479
"Unlocking the Mysteries of Inheritance" (article), 189
Genensky, Samuel M., 83–84
Generette, William L., 480
George's Story (film), 101
German Ophthalmological Society, Franceschetti-Liebrecht Prize, 384
The Giant City State Park Interpretive Center, 288
Gill, J. M., 314
Gillman, Arthur E., and Dorothy Rose Goddard "The 20-Year Outcome of Blind Children Two Years and Younger: A Preliminary Survey," 1–7
Glaser, Edward L., 327
Gobetz, Giles, 408
Goddard, Dorothy Rose, and Arthur E. Gillman
"The 20-Year Outcome of Blind Children Two Years Old and Younger: A Preliminary Survey," 1–7
Goldish, Louis H.
and sensory aids market, 229
Goldish, Louis H., and Harry E. Taylor
"The Optacon: A Valuable Device for Blind Persons," 49–56, 281
Goodbye Mr. Chips (cassette), 475
Goodwin, Robert W., 192
Government
"The Demonstration Grant is Probably Counter-Productive" (article), 429
Grand Rapids Association for the Blind (Michigan), 260
Grant, Isabelle, 371
Grant, W. Morton, 240
Greater Detroit Society for the Blind, 444
occupational information library, 32
The Great Gatsby (cassette), 475
Green, S. M., 375
Greer, Peter, 408
Grooming, 264
Gruber, Kathern F., 240
Guidance
vocational, bibliography, 168–69
vocational, course, 163–69
Guide Dogs for the Blind Association, 72–78
Guide, sighted, 39, 41
guidestrip, tactile, 322–23
Guiding Eyes for the Blind, 383
Gulkus, Steven P., Richard T. Walls, and A. P. MacDonald, Jr.
"The Disability Seriousness Scale: Rating the Effects of Blindness," 174–77
Gundersen Eye Clinic, 98

Hadley School for the Blind, 400
Dr. Richard Kinney Challenge of Living Award, 432
listening skills improvement course, 335
Haines, Alice I., 480
Halifax School for the Blind, Nova Scotia, Canada riding classes, back cover (Oct.)
Hall, Leon, 129
Handbell choir for blind youth, 315–19
Handel, Alexander F. (award), 382, 383

Handicapped, the
consumer advice for, 191
employment, VA hospitals, 47
and environmental barriers, 356–62
"Hiring the Handicapped in Recreation" (brochure), 189
legal recourse against discrimination, 432
Office for the Handicapped, 383
"Physical and Occupational Therapy for the Handicapped Child" (article), 190
Public Attitudes Toward the Physically Disabled (film), 95
services to, 239
severely, services to, 177
supplemental security income, 79
survey of employment of, 240
travel agencies for, 287
Handicapped children, 279
Hanson, Howard, 129
Harriet L. Keeler Woodland Trail for All People, 425
Hartman, R. E.
"Ball Games for Visually Handicapped Children," 348–55
Health
care institutions and employment of the handicapped, 240
"Early Disease Detection—a New Way to Health" (pamphlet), 189
education center, 383
HEW, 89, 96, 103, 131, 335, 377, 384
and agency accountability, 241–42
birth records monitoring system, 191
health education council, 383
mobile eye clinic, 335
Office for the Handicapped, 239, 383
sex education for the handicapped, 220
vision screening, preschool, 431
Hedkvist, Charles, 371
Height, Dorothy, 347
Heim, Ruth E. and Patricia A. Gallagher
"The Classroom Application of Behavior Modification Principles for Multiply Handicapped Blind Students," 447–53
Held, Marian, 47
Hendrix, Lee, Bert P. Cundick, and John M. Crandell, Jr.
"A New Method for the Group Testing of Blind Persons," 398–403
Heyes, Anthony David
"Blindness and Yoga," 385–393
Hindsight, 35–37, 80–81, 135, 277–79, 320–21, 423–25, 471–73
Hirsch, Claude W., 144
Hlad, C. A., 96
Hoerlein, B. Franklin, 48
Hogan, Michael John, 48
Holbert, William, 128
Holmes, Ruth V.
"The Planning and Implementation of a Sex Education Program for Visually Handicapped Children in a Residential Setting," 219–25
Horseback riding, 281
Hoskins, Len
"Florida's Industrial Training Laboratory for Blind Persons," 119–23
Howe, David E., 144
Hoyt, Kenneth B., 384
Hudson, George M., 129
Human Resources Center rehabilitation research library, 192
Human Sexuality Opinion Survey, 200
Hurwitz, Leslie, 192

Illinois Braille and Sight Saving School, 220
Illinois School for the Deaf, 220
Illinois Test of Psycholinguistic Abilities, 466
I'm OK, You're OK (cassette), 475
Industrial Home for the Blind, 89, 98
Anne Sullivan Macy Award, 384
switchboard operator-receptionist training, 335
Industrial Training Laboratory, 119–23
Inflation
"The Wages of Inflation" (article), 427
Information Research Utilization Center, 287
Institute for the Development of Creative Child Care, 267
Institutions, state
teaching the multiply handicapped blind in, 337–43
Instructional Materials Center for Special Education, 384
Instructors
mobility and professionalism, 104–7
orientation and mobility, manpower needs in, 433–43
Intelligence quotient and social quotient, 1–7
International Agency for the Prevention of Blindness, 371
International Association for the Prevention of Blindness, 371
International Research Information Service (IRIS), International Register of Research, 314
Interprovincial School for the Deaf, Amherst, Nova Scotia, 317

Jackson, Arthur L., 329
Jackson, Ned T. and George Kording
"Orientation and Mobility on the Farm," 37–39
Jaeckel, Fred R., 144
Javits, Jacob K. (award), 382
Jeffrey Norton Publishers, Inc.
Tape Library Catalog, 335
Jewish Guild for the Blind telephone monitoring system, 384
Johnson, J. Arthur (award), 288

Kansas State School for the Visually Handicapped, 448
Kansas State University, 335
Karen, Robert, 475
Karpen, Mary Lou and Lee Ann Lipke
"Sex Education as Part of an Agency's Four-Week Summer Workshop for Visually Impaired Young People," 260–67
Kay, Leslie, 235–37
"Orientation for Blind Persons: Clear Path Indicator or Environmental Sensor," 289–96
Kidwell, Ann, 408
Kingdom of Iran, Ministry of Education, special commendation medal, 336
Kingsford, Wilmer H., 144
Kinoshita, Jin H., 336 (award)
Kiwanis International Radio Award, 336
Kleinman, Morton M., 192
Kohn, Joseph, 48
Kording, George and Ned T. Jackson
"Orientation and Mobility on the Farm," 37–39
Korman, Jack C., 144
Krebs, Bernard, 239
Krentz, Harold, 41
Krieger, Alexander A., 143

LaBarre, Alfred H., and Lillian R. Carroll
"A Cooperative Vocational Guidance Course for Visually Impaired Students-Clients," 163–69
Lancaster County Branch of the Pennsylvania Association for the Blind, accreditation, 191
Language learning experiences for preschoolers, 268–75, 300–7
Large print
books, 335
"how to" publications, 480
list of titles, 47
manual for transcribing, 96
Laser Cane
testing of, 404–7
Lass, Muriel C. and Helen G. Levine
"Recorded and Braille Textbooks: Everything the Blind Student Needs to Know," 153–56
Lawhorn, Geraldine, 336
"Laws Governing the Mandatory Reporting of Blindness by Physicians," 336
Lawsuit on rights of handicapped children, 33
Leavitt, Glenn S.
"A Message to Professionally Trained Rehabilitation Teachers of the Blind," 373–75
Legal recourse against discrimination, 432
Legislation, 382
discrimination, 432
funds to disabled (article), 47
Rehabilitation Act of 1973, 239
supplemental security income, 79
"The Wheels of Congress: A Primer Article on Legislative Procedure" (article), 429
Leibowitz, Howard, M., 98
Leopold, Irving H., 288
Levavi, Lea
"All or Nothing: Dogma in Work for the Blind," 375
Levine, Helen G. and Muriel C. Lass
"Recorded and Braille Textbooks: Everything the Blind Student Needs to Know," 153–56
Lewis, Mary Francis
"A Handbell Choir for Blind Students." 297–99
Library
lending, 432
listening, catalogue, 477
occupational information for the blind, 32
services, free, 151
for the visually handicapped, 335
Library of Congress, 239

NBA Manual for Large Type Transcribing, 96
Volunteers with Vision program, 383
transcribing groups list, 155
Talking Book Program, 105
The Lighthouse, New York Association for the Blind, talking books repository, 239
Link, Harry J., 144
Lipke, Lee Ann, 267
Lipke, Lee Ann and Mary Lou Karpen
"Sex Education as Part of an Agency's Four-Week Summer Workshop for Visually Impaired Young People," 260–67
Listening Library, catalogue, 477
Listening Skills
improvement course, 335
research proposals, 466–68
a review of the literature, 363–69, 415–21, 460–69
teaching manual, reviewed, 323–24
Listening tests, 464–66
Literature
on cassettes, reviewed, 475–77
recorded and braille, 151–56
Living skills, 164–65
eating, continental method, 170–73, 477
teaching to blind young adults, 454–59, 469
training, 119–23
Long Cane News, 104
Long, Robert C., 288
Lord, Francis, 408
Los Angeles City College, 19, 24
Louis B. Mayer Foundation, 480
Louis Braille Award of Center for the Blind, Philadelphia, 336
Lourie, Norman V., 336
Lovejoy, Winslow M., Jr., 144
Lowenfeld, Berthold, 408
Low Vision
care, comprehensive, 97–103
Low Vision: The Edge of Sight (film), 101

McBride, Vearl G., 71
"Explorations in Rapid Reading in Braille," 8–12
McCahill, William P., 240
McCollough, Anna, 384
McCormick, John L., 144
MacDonald, A. P., Richard T. Walls, and Steven P. Gulkus
"The Disability Seriousness Scale: Rating the Effects of Blindness," 174–77
MacFarland, Douglas C., 131
McGuinness, Monseigneur Richard M., 240
McLelland, P., R. B. Benton, N. A. Permenter, and J. Baylor
"Evaluating the Work Potential of Blind Multiply Handicapped Persons for the Manufacture of Bath Perfume," 20–24
Magna Print Books, 480
Magill, A. N., 371
The Making of Blind Men, 103
Malamazian, John D., 240, 404
Management by objectives (MBO), 247–51
97, 377
Manley, Helen, 220
Marland, S. P., 25
Marotta, Michael and Peter Rossi, Jr.
"Breaking Blind Stereotypes Through Vocational Placements," 29–32
Mary E. Switzer Memorial Fund, 91
Maryland Blind Worker of the Year, 336
Massachusetts Association for the Blind, 97
Massachusetts College of Optometry, 97
Massachusetts Commission for the Blind, 97, 377
and CCTV, 83–4
Massachusetts Department of Special Education, 99
Massachusetts Division, American Cancer Society pamphlets, 383
Massachusetts Rehabilitation Commission, 99
Massel, Gary A., 96
Medicaid
vision screening, preschool, 431
Medicare
and mobility services, 442
Medical sciences
"Clinical Reactions in Children After Rubella Vaccinations" (article), 45
"Iris Atrophy in Hemoglobin SC Disease" (article), 287
"Life and Death and Medicines" (article), 45
Meditation, 390–92
Meeting organizers service, 144
Melody, Robert, 129
Mental health, industrial, counseling (book), 45
Mentally retarded, 233–35
advocate, 143
Michigan Division of Services for the Blind, 444
Michigan Industrial Home, 377
Michigan State Department of Education, 10
Michigan State University, 10, 128
Michigan Rehabilitation Center for the Blind, 444
Migel Medal, 382
Miller, Joan Hutchinson, 384
Miller, Ray, 144
Mims, Forest, 235
Missouri School for the Blind, 375
Miyagawa, Stephen H.
"My Experience With the Laser Cane," 404–7
Mobile, audio-tactile exhibition, design for, 252–59
Mobility (pamphlet), 45
definition, 289
films and printed material on, 105
guide dog in the United Kingdom, 72–78, 327
instruction, 281
instructors and professionalism, 104–7
and stress, 385–87
tactile guidestrip, 322–23
teaching to multiply handicapped blind student, 451
training of multiply handicapped blind, 343
and the white cane, 35–37
Mobility and orientation
on the farm, 37–39
Money management, 456
Monroe, Charles Henry, Jr., 384
Morrison, Marie, 98
Morris, Robert H.
"A Play Environment for Blind Children: Design and Evaluation," 408–14
Movie discount, 41
Multihandicapped
aging blind in nursing homes, 145–50
Multihandicapped blind, the
behavior modification in the classroom, 447–53
teaching, 337–43
Murphey, John Joseph, 384
Murphy, Eugene, 405
Music
and the blind, 320–21
handbell choir for blind youth, 315–19
Myers, Kenneth J., 480

NAC (See National Accreditation Council for Agencies Serving the Blind and Visually Handicapped)
National Accreditation Council for Agencies Serving the Blind and Visually Handicapped, 89, 336, 382, 383
accreditations, 191, 383
leadership award, 288
National Association for Deaf-Blind and Rubella Children in England, 318
National Advisory Eye Council, 240
National Braille Association
braille book bank, 154
braille technical tables bank, 154
Manual for Large Type Transcribing, 96
NBA Book Bank (booklet), 287
National Braille Press, 383
"The Rehabilitation Teacher," 335
National Call for Action, 347
National Center for Deaf-Blind Youths and Adults, 89, 444
National Conference on Social Welfare, 336
National Council of Negro Women, 347
National Council of State Agencies for the Blind, 240
National Easter Seal Society
camp directory, 47
National Eye Institute
newsletter for vision research, 95
Nusser, Wilford L., 240
study of eye disease, 47
National Health Council, 288, 383
grant awards, 288
National Health Insurance Act
and mobility services, 442
National Industries for the Blind, 20, 144
National Institute of Mental Health, 145
National Institutes of Health
"A Guide to the NIH Research Contracting Process" (brochure), 169
National Organization of Women (NOW), 347
National Rehabilitation Association, 89
National Society for the Prevention of Blindness, 145
Cataracts (film), 288
National Technical Institute for the Deaf, 143
Nature trail, 425
The New Hampshire Association for the Blind, accreditation, 191
New Hampshire Department of Education, Special Education Section, 185–87

New Jersey Commission for the Blind and Visually Impaired, 30
eating skills, teaching, 170–73
and RLF, 63
and vocational placement, 30
The New Outlook for the Blind, 104, 383
New York Association for the Blind, 47, 48, 98, 144, 336, 377
Administrative Considerations in the Employment of Blind Teachers (book), 288
award, 48
longitudinal outcome study, 1–7
pamphlet, 45
New York Lighthouse,
information pamphlet, 45
New York Medical College, 192
New York State Board of Social Welfare, 96
New York State reporting of visual impairments, 336
New York Times in review discs, 48
North Dakota State School for the Blind, 96
Nursing homes
and the aging blind, 145–50
"How to Choose a Nursing Home: A Shopping and Rating Guide" (pamphlet), 479
manual for in-service educators in, 87, 89
pamphlet, 287
"Selected Characteristics of Nursing Homes for the Aged and Chronically Ill: United States—1969" (booklet), 381
sensitivity training for staff, 146

Occupational training, 81
Occupations
and blind stereotypes, 29–32
employment exchange bulletin, 45
industrial electronics, 119–23
optical finishing technician, 143
in rehabilitation, 375
switchboard operators, 31
teacher, 288
teleservice representative, Social Security Administration, 19, 24
in VA hospitals, 47
O'Connor, G. Richard, 240
Office for the Handicapped, 383
Okin, Tessie, 41
Ontario School for the Blind, 317
Optical finishing technology program, 143
Optacon, 281, 335
evaluation, 49–56
grant, 239
price correction, 41
Optacon Fund, Inc., 56
Optiscope Enlarger, 31
Orientation, 80–81
clear path indicator or environmental sensor, 315–19
Orientation and Mobility
on the farm, 37–39
manpower needs in, 433–43
skills and the laser cane, 404
"Orientation and Mobility Code of Ethics," 104
Orthoptics scholarships, 48
OSTI report, 97
Overbrook School for the Blind, 394
Deaf-Blind Center, 78
Oxygenation
and RLF, 66
Oxygen warning, 383

Pacemaker telephone monitoring system, 384
Panzer, Irving R. M., 240
Parents
and camp program for preschoolers, 344–47
of handicapped children, 279
Parker, Michael F., 336
Pastalan, Leon A.
"The Simulation of Age-Related Sensory Losses: A New Approach to the Study of Environmental Barriers," 356–62
Patterson, Mary G., 371
Pennsylvania
community living for retarded persons, 192
Pennsylvania Blind Concessions, 335
Pennsylvania Department of Public Welfare, 143
Perception
and psychology (article), 141
Permenter, N. A., R. B. Benton, J. Baylor and P. McLelland
"Evaluating the Work Potential of Blind Multiply Handicapped Persons for the Manufacture of Bath Perfume," 20–24
Perkins School for the Blind, 99, 317
1974 Anne Sullivan Macy Award, 384
Perlis, Leo, 240
Perry, Newell, 377
Personal Management
teaching to blind young adults, 454–59, 469
The Peter Principal (cassette), 475
Physical education, 287
for the blind, slides, 96
Physical fitness through Yoga, 385–93
Physician of the Year Award of the President's Committee on Employment of Handicapped, 336
Pittsburgh Blind Association, 143
Piano instruction book, 432
Play environment for blind children, 408–14
Pogorelc, Robert L., 240
Polanco, Gustavo Hernandez, 371
Population, blind, statistics, 142
Porter, Nancy, 384
Posnes, Bernard, 48
Postage Stamp, Brazilian, 371
Prematurity
and blindness, 5
and RLF, 61–71
Preschool
children, camp for, 344–47
vision test (article), 431
President's Committee on Employment of the Handicapped, Handicapped American of the Year, 48 (Award), 240
Professionalism, 373–75
Protestant Guild for the Blind, 99
Psychology
Behavior Therapy in Psychiatry (book), 430
Community Psychology and Social Systems (book), 381
industrial (book), 45
and perception (article), 141
testing, group, new method, 398–403
Purse, Ross C., 371

Qualls, Floyd, 371

Radley, Thomas J., 96
Raleigh Lions Clinic for the Blind, 383
Rand Corporation
"Information Transfer Problems of the Partially Sighted" (study), 335
Randolph, Jennings, 240 (award), 336
Randolph-Sheppard Act, 377
Reading
braille, rapid, 9–12
braille, study of speed, 13–19
device evaluation (Optacon), 49–56
machine, 383
material for the blind, 432
workshop, rapid braille, 71
Receptionist, 335
Recording for the Blind, Inc.
Catalog of Tape Recorded Books, 152
Master Tape Library, 151
recording units, locations, 152
Recording services, free, 151
Records for preschoolers, 300–7
Recreation
ball games for blind children, 347–55
birding, 288
"Design for Play" (pamphlet), 479
Gourmet Menu Book, 431
handbell choir for blind youth, 315–19
Lilias, Yoga and You (book), 381
and physical education, 287
riding, back cover (October)
Register, Joe S.
"Management by Objectives: A Tool for Management," 247–51
Rehabilitation
agencies, accountability, 247–51
clinic, vision, 97–103
funds to disabled (article), 47
Mary E. Switzer Memorial Fund, 91
as occupation for the blind, 375
research library, 192
teachers and professionalism, 373–75
and the Vietnam veteran, 324–27
visual for the aging, 124–27
and vocational placement, 57–60
vocational problems (article), 142
Rehabilitation Act of 1973, 383
The Rehabilitation Institutes, 95
Research
accountability of the researcher, 95
diseases of the macula (book), 142
international register of, on visual impairment, 314
in listening skills, 466–68
newsletter, 95
Research to Prevent Blindness, Inc., 480
Research Utilization Unit, 383
The Retina Foundation, 480
Retinitis Pigmentosa
"A Father's Fight Against Blindness" (article), 431
Retrolental fibroplasia
study, retrospective, 61–71

"Treatment of Acute Proliferative Retrolental Fibroplasia" (report), 189
warning, 383
Review
Developmental Handicaps in Babies and Young Children, Diana L. Broan, reviewed by Carol Millsom, 279
Education of the Visually Handicapped (film) produced by Department of Cinema-Photography, the University of Wisconsin, reviewed by Arthur Zigouras, 233
Getting It All Together—Teaching Human Relationships and Communication Skills in Nursing Homes, Irving R. Dickman, reviewed by Beth Phillips, 87, 89
"Heard Any Good Books Lately?" by Paul Kresh
Help for the Handicapped Child, Florence Weiner, reviewed by Dava Grayson, 87
Inside Intuition: What We Know about Nonverbal Communication, Flora Davis, reviewed by Marianne May Apple, 231–32
The Island, Robert Russell, reviewed by Carlton Smith, 183–84
Like Other People (film) produced by Didactic Films, Inc., reviewed by Derek L. Burleson, 85, 87
Listening for the Visually Impaired, A Teaching Manual, Claudell S. Stocker, reviewed by Susan Jay Spungin, 323–24
The Meaning of Blindness: Attitudes Toward Blindness and Blind People, Michael E. Monbeck, reviewed by Berthold Lowenfeld, 137, 139
Me Too, Vera and Bill Cleaver, reviewed by Betsy Byars, 233, 235
Oral-Aural Communications (OAC): A Teacher's Manual, Glenn Sheffield Leavitt, reviewed by George V. Gore III, 473–75
See It My Way, Marilyn Swieringa, illustrated by Robin A. Jensen, reviewed by Jessamine Cobb, 184–85
Twyla, Pamela Walker, reviewed by Betsy Byars, 235
Rhinelander, John B., 96
Rhode Island Association for the Blind, 98
Rhode Island bookmobile for homebound elderly, 132
Rhymes for preschoolers, 268–75, 300–7
Richardson, James H., 48
Riding, horseback, 281
Risley, Burt L., 129
Rives, Louis H., Jr., 432
Robson, Howard
"The Practice of Guide Dog Mobility in the United Kingdom," 72–78
Roberts, Edna S.
"Teaching the Continental Method of Eating to Blind Persons," 170–73, 477
Roberts, Ferne, 371
Roberts, Harold G., 470
Robichaud, John H., 329
Robinson, E. J., 144
Robinson, Robert
"Blinded Veterans of the Vietnam War," 226–29
"Vignettes of Blinded Veterans of the Vietnam War," 324–27
Rockefeller Brothers Fund, 383
Rodgers, Carl T., 41
Rosenbloom, Alfred A.
"Prognostic Factors in the Visual Rehabilitation of Aging Patients," 124–27
Rossi, Peter, Jr., and Michael Marotta
"Breaking Blind Stereotypes Through Vocational Placements," 29–32
Royal Commonwealth Society for the Blind, 371
Rubella
handicapped in Canada, 315–19
vaccinated reaction (article), 45
Ruch, Edward T., 192
Rural
orientation and mobility on the farm, 37–39
Russell, H. Keith (award), 240

Sensory aids, 235–37
clear path indicator or environmental sensor, 315–19
market, 229
Sensory Aids Development Program (AFB), Optacon evaluation, 49–56
Sensory losses in the aging, 356–62
Sequential Tests of Educational Progress: Listening, 465
Services, agency
defining and measuring, 241–46
Services to the Blind in the U. S. Government, 377
Seward, Henry, 131
Sex education, 471–73
and blind children, 193–200, 201–9, 210–15
curriculum, 223–24
films and basic text, 222
film (review), 85, 87
models, 222
and parent education, 213
program for visually handicapped children in a residential setting, 219–25
program for visually impaired young people, 260–67
program guidelines for administrators, 216–18
reading materials and resources, 265–66
resources and materials, 215
psychosocial effects of blindness, and planning, 201–9
Selected References on Low Cost Sex Education Publications for Teen-age Youths (booklet), 431
Sex Education and Family Life for Visually Handicapped Children and Youth: A Resource Guide, 201
"Sex Education for the Exceptional Person; a Rationale" (article), 190
Sexism and Youth (anthology), 381
Sexuality and the Handicapped (pamphlet), 479
summer workshop, 260–67
and teacher training, 213
Your Changing Body: A Guided Self-Exploration, (cassette), 267
Sex Information and Education Council of the U.S., (SIECUS), 216
The Sacramento Society for the Blind, accreditation, 191
Salmon, Peter J., 240 (award), 432
"Mary E. Switzer: A Tribute—A Memorial," 89, 91
Samuelson, Milton, 96
Scadden, Lawrence A.
"The Tactile Vision Substitution System: Applications in Education and Employment," 394–97
Scheie, Harold G., 336
Schepens, Charles L., 240
Schloss, Irvin P.
"Supplemental Security Income: A Change in Concept," 79
Scholarships, 48
Scholl, Geraldine T.
"The Psychosocial Effects of Blindness: Implications for Program Planning in Sex Education," 201–9
Science for the Blind, 31
Scott, Robert, 103
Search, David, L.
"A Special Short-Term Evaluation/Training Program for Deaf-Blind Adults," 444–46
Searle, R. Preston, 144
Seashore Measures of Musical Talent, 464
Seeing Eye, Inc., 30, 48, 288
Optacon grant, 239
Senior Advocates International, Inc., 431
Sensitivity training, nursing homes, 146
Shopping, grocery, 456–57
SIECUS, 216
Sighted persons,
brochure on helping the blind, 144
Silber, Edward S., 96, 240
Smith-Kettlewell Institute of Visual Sciences, 394
Snyder, William T. (award), 288
Social quotient and intelligence quotient, 1–7
Social research, 383
Social Security
supplemental, 79
Social Security Administration, 96
teleservice representative training, 19, 24
Social welfare services and confidentiality (pamphlet), 333
Social work
and accountability, 242
Developments in Human Services, Volume I (book), 381
Heredity (article), 95
"Reflections on Interstate Adoptions" (article), 431
Songs for preschoolers, 300–7
Spain, Jayne Baker, 144
Spanish language
"Guide to Audiovisual Aids for Spanish-Speaking Americans," 381
information pamphlet for the blind, 45
"Spanish-Language Health Communication Teaching Aids," (annotated bibliography), 381
Visualtek user's manual, 383
Spatial reference systems and early vision, 157–62
Speaking, public, 135, 137
Sports
riding, back cover (Oct.)
State of Michigan Bureau of Blind Services occupational information library, 32
Statistical Surveys

"Chronic Conditions and Impairments of Nursing Home Residents: United States—1969" (pamphlet), 287
disabled worker beneficiaries (article), 47
profile of blind persons, 142
"Selected Characteristics of Nursing Homes for the Aged and Chronically Ill: United States—1969" (booklet), 381
Vision Test Validation Study for the Health Examination Survey Among Youths 12–17 Years (article), 190
Statistics
blind population, 145
Stereotoner, 281
Stories for preschoolers, 300–7
Stralem, Mrs. Donald S., 144
Straus, Ellen, 347
Street crossing with tactile guidestrip, 322–23
Stress, 385–87
Students
blind, organization, 329
"Guide to Effective Study Through Listening" (pamphlet), 151
textbooks, recorded and braille, 151–56
Subway protest, 431
Sullivan, Mary Anne, 395
Sunrise Project, 20–24
Supplemental Security Income (SSI), 79
Survey
blinded veterans of the Vietnam war, 226–29
Swales, Richard (award), 336
Swedish National Association for the Blind, 371
Swerdlin, David M., 328–29
Switchboard operator, 335
Switzer, Mary E.,
memorial tribute, 89, 91
Sykes, K.C., 48
"Camp Challenge: Program for Parents and Their Preschool Children with Visual Handicaps," 344–47
Szufnarowski, John J., 103

Tactile-audio exhibition, mobile, 252–59
Tactile maps
in a play environment for children, 411
Tactile Vision Substitution System (TVSS)
in education and employment, 394–97
Talking books
on sex education, 265–66
Tallman, Carter B., Dagmar B. Friedman and John E. Asarkof
"Comprehensive Low Vision Care: Part One," 97–103
Tape
recorded books, 152
Tapes
Alcoholics Anonymous literature on, 127
A.R.E. Braille Library, 383
library catalog, 335
on sex education, 265–66
Volunteers of Vacaville, Inc., 239
Taylor, Harry E., and Louis H. Goldish
"The Optacon: A Valuable Device for Blind Persons," 49–56
Teacher
blind, 288, 480
itinerant, using mobile classrooms, 185–87
of partially seeing children, guide, 430
rehabilitation and professionalism, 373–75
of sex education, 221, 213
special education, 143
Teaching
and behavior modification for multiply handicapped blind students, 447–53
living skills to blind young adults, 454–59, 469
manual, oral-aural communications, reviewed, 473–75
Teague, Olin E., 240
Technical tables, braille, 154
Teenager
"Helping the Handicapped Teenager Mature" (pamphlet), 479
Telephone monitoring system, 384
Telesensory Systems, Inc., 49
new address, 335
Television
cable, current books program, 48
captions for the deaf, 96
Tennessee School for the Blind, 25–28
"Testimony of Bradley R. Straatsma, M.D., Director, Jules Stein Eye Institute, University of California, Los Angeles, California, to the Labor-Health, Education and Welfare Subcommittee on Appropriations of the United States Senate, Senator Warren G. Magnuson, Washington, Chairman, July 26, 1973" (article), 287
Tests
Blind Learning Aptitude Test (BLAT), 240, 431
in braille, 399
"Choice of Preschool Vision Test" (article), 431
The Disability Seriousness Scale, 174–77
group, a new method, 398–403
listening, 464–66
Maxfield-Buchholz Social Maturity Scale for Blind Preschool Children, 4
Rimland Diagnostic Checklist E-2, 63
WISC, verbal, 4
Texas Commission for the Blind, 20
Texas Womens College, 96
Textbooks
braille, 153–56
recorded, 151–153
Thomsen, Oliver J., 240
Tillinghast, Edward W., 335
Tobin, M. J., 314
Torbett, David S.
"A Humanistic and Futuristic Approach to Sex Education," 210–15
Trachoma
alert, 48
"Field Methods for the Control of Trachoma" (pamphlet), 479
Training
program for deaf-blind adults, 444–46
as switchboard operator-receptionist, 335
Transcribing groups, list of, 155
Travel
"Customs Hints for Returning U. S. Residents" (braille booklet), 335
Dublin for the Disabled (guidebook), 192
International Clearing Hosue for Educational Visits and Exchanges, aid to handicapped travelers, 335
passes with guide dog in the United Kingdom, 73
tours for the handicapped, 287
TVSS (See Tactile Vision Substitution System)
Twin Vision Lending Library, 432

Uhde, Thomas and Emerson Foulke
"Do Blind Children Need Sex Education," 193–200, 208
Ultrasonic spectacles, 235–37
United Kingdom
and guide dog services and concessions, 72–78, 327
United States Department of the Interior, 425
United States Social and Rehabilitation Service, 101, 177
United Way of America's Services Identification System (UWASIS), 242
chart, 244–45
University of Michigan Child Development Project, 300
University of Pittsburgh, 363
University of Tennessee, 128

Vending Stand Management Handbook, 129
Veterans Administration, 96, 480
Birmingham, 48
Civilian Health and Medical Program pamphlet, 333
employment of handicapped, 47
and the laser cane, 404–7
Optacon funding, 56
reorganization, 48
and the Vietnam veteran, 324–27
Veterans, blinded
Vietnam war, survey, 226–29, 324–27
Virginia Association of Workers for the Blind, 335
Virginia Commission for the Blind, 335
Vision
early, role of, 157–62
rehabilitation clinic, 97–103
screening, preschool, 431
test, preschool (article), 431
Vision, limited
"beautiful! Visual Information About Partial Sight" (list), 381
Understanding Children Who Are Partially Seeing: A Classroom Teacher's Guide (book), 430
Visual
acuity, changes in, 6
acuity of youth (report), 47
impairment, need for definition, 229
Visually handicapped
working with the, 149–50
Visualtek
Spanish edition, 383
Vocational Education
research and analysis of three programs, 93
Vocational exploration, 166
Vocational guidance course
bibliography for, 168–69
Vocational placement
and blind stereotypes, 29–32
readiness, 57–60
Vocational program for visually handicapped in a residential school, 25–28

Vocational rehabilitation
problems (article), 142
Rehabilitation Information; a Bibliography, 191
"Rehabilitation Services; Public vs. the Private Sector" (article), 191
services, expansion of, 177
"Vocational Rehabilitation Workshop Costs" (article), 431
Vocational Rehabilitation for the Blind Retional Case of the Year, 384
Vocational training, in Florida, 119–23
Voice Over Books, 475–77
Volunteers
aging blind as, 31
Advancing Volunteer Service for Blind People (booklet), 287
blind, 287
National Organization of Women challenge, 347
1973 Publications Catalog, 286
Volunteers of Vacaville, Inc., 239
Volunteers With Vision, 383
Vote, right to by mentally ill, 96

Wagner-O'Day Act, 382
Wald, George (award), 48
Wallace, David H., and John M. Crandell, Jr.
"Speed Reading in Braille: An Empirical Study," 13–19
Wallin, Harold, 425
Walls, Richard T., A. P. MacDonald, Jr., and Steven R. Gulkus
"The Disability Seriousness Scale: Rating the Effects of Blindness," 170–77
Warren, David H.
"Early vs Late Vision: The Role of Early Vision in Spatial Reference Systems," 157–62
Washington, D. C. guide for the handicapped, 383
Watts, Lucian Louis, 335
Waugh, Clyde, W., 48
Weaver, Edward T., 432
Weinberger, Caspar W., 239
Welsh, Richard L., 384
Welsh, Richard L. and Bruce B. Blasch
"Manpower Needs in Orientation and Mobility," 433–43
Wells, Benjamin B., 48
Western Michigan University, 104, 444
West Virginia Division of Vocational Rehabilitation, 174
Whitten, E. B. (award), 192
Wiesenfeld, Frances (award), 336
Wilcox, Lucia Anavi, 480
Willett, W. Ward, 384
Wilson, Diana A.
"Teaching Multiply Handicapped Blind Persons in a State Hospital," 337–43
Wilson, Edouard L.
"Assessing the Readiness of Blind Persons,' '57–60
Wilson, John, 371
Withrow, Frank, 220
Wittenbrink, Rev. Boniface L., 336
W. K. Kellogg Foundation, 288
Wolf Associates (award), 336
Women's Committee of the President's Committee on Employment of the Handicapped, Marion Mill Preminger Award, 144
Workers for the blind, 373–75
Work evaluation, 57–60
Work potential evaluation of blind multihandicapped persons in manufacturing bath perfume, 20–24
Workshop, rapid reading, braille, 9–12
World Council for the Welfare of the Blind, 423–25
assembly, 1974, 369–71
World Health Organization, birth defects monitoring, 191
World Meetings Information Center, 144
Wright, Beatrice A.
"An Analysis of Attitudes—Dynamics and Effects," 108–18

Xerox Reproduction, Center
large print books, 335

Yoga, 385–93
Lilias, Yoga and You (book), 381
Young, John C., 384
Youth Law Center of San Francisco, 33
Youth: Transition to Adulthood (report), 93

Zimin, Boris, 369

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